BEHAVIOURAL SURVEILLANCE SURVEY, 2008
BHUTAN

TECHNICAL REPORT
November 2009

NATIONAL AIDS/ STI CONTROL PROGRAMME
DEPARTMENT OF HEALTH SERVICES
MINISTRY OF HEALTH
ROYAL GOVERNMENT OF BHUTAN

Principal Authors:
Dr Tasnim Azim, Scientist and Head, HIV/AIDS Programme, ICDDR,B, Bangladesh
Mr Masud Reza, Statistician, ICDDR,B, Bangladesh
Dr M Shah Alam, Project Research Manager, ICDDR,B, Bangladesh
Mr Mani Pradhan, Project Director, Digital Shangri-La, Bhutan
Dr Lungten Z Wangchuck, Head, Health Research & Epidemiology Unit, MoH
Dr Gampo Dorji, Programme Manager, National AIDS/STI Control Programme (NACP), MoH

Overall Coordination:
Dr Gampo Dorji, Programme Manager, National AIDS/STI Control Programme, MoH
Dr Lungten Z Wangchuck, Head, Health Research & Epidemiology Unit, MoH
Mr Kinley Dorji, GFATM/World Bank Coordinator, MoH
Mr Kado Zangpo, Head, Health Information and Management System, MoH
Ms Sangay Wangmo, Programme Officer, National AIDS Control Programme, MoH
Mr Namgay Tshering, World Bank Project Coordinator, MoH

BSS Design and Training Team:
Dr Tasnim Azim, Scientist and Head, HIV/AIDS Programme, ICDDR,B, Bangladesh
Dr M Shah Alam, Project Research Manager, ICDDR,B, Bangladesh
Mr Masud Reza, Statistician, ICDDR,B, Bangladesh
Dr Gampo Dorji, Programme Manager, National AIDS/STI Control Programme, MoH
Mr Kencho Wangdi, Programme Officer, MoH

BSS Field Team in Bhutan:
Mr Mani Pradhan, Chief Executive, Digital Shangri-La, Bhutan
Mr Karma Chogyel, Senior Consultant, Bhutan
Mr Tshewang Tenzin, Enumerator
Ms Dechen Wangmo, Enumerator
Mr Gyembo, Enumerator
Ms Sherab Wangmo, Enumerator
Mr Gautam Pradhan, Enumerator
Ms Phuntsho Wangmo, Enumerator
Ms Kamana Gurung, Enumerator
Mr Kezang, Enumerator
Ms Hari Maya, Enumerator
Ms Dorji Phuntsho, Enumerator
Mr Bhagiman Gurung, Enumerator
Mr Singye Dorji, Enumerator/Data Entry Operator
Mr Tenzin, Enumerator/Data Entry Operator
Mr Biran Pradhan, Enumerator/Data Entry Operator
Mr Kamal Prasad Mishra, Enumerator/Data Entry Operator

FOREWORD

This report summarises the findings of the first Behavioural Surveillance Survey (BSS) for HIV in Bhutan, which was conducted between September-December 2008. On behalf of the Royal Government of Bhutan (RGoB), the National AIDS Control Programme (NACP), Ministry of Health (MoH) initiated the process of conducting BSS in collaboration with the International Centre for Diarrhoeal Disease Research, Bangladesh, (ICDDR,B), Bangladesh. MoH recruited the local firm, Digital Shangri-La in Thimphu to conduct the BSS with technical assistance from the ICDDR,B and NACP. The data analysis was conducted and the final report has been prepared by ICDDR,B and NACP with assistance from Digital Shangri-La.

For many years Bhutan has been fortunate to escape the HIV epidemic that is affecting our surrounding countries. The RGoB appreciates the information being presented in this report. The experience of other HIV affected countries tells us that early action is essential to stop the spread of HIV infection. We are also aware that most cost effective way for a country with limited resources like ours to halt the spread of the virus before the economic burden becomes too large to bear is to address populations that are most at risk for HIV. However, we are also aware, that stigmatisation of those population groups will not help in stemming the epidemic, as it will only serve to drive them underground. Rather, an open-mindedness and humane approach is essential to allow intervention Programmes to be able to reach people who are marginalized with effective services.

This partnership between NACP and ICDDR,B was a special arrangement fostering regional collaboration which has proven to be very successful. We all recognise that HIV and AIDS requires a multi-sectoral approach not only in-country but across borders especially when HIV does not recognise borders.

We hope that this report will inspire all those involved in HIV/AIDS prevention Programmes-including different Government sectors, international organisations, NGOs and community based organisations, to set up coordinated and effective prevention Programmes and to scale up successful interventions across the country.

Dr. Dasho Gado Tshering
SECRETARY
MINISTRY OF HEALTH

ACKNOWLEDGEMENTS

Research and Epidemiology unit of the Department of Public Health, MoH, Bhutan is responsible for this Behavioural Surveillance Survey in Bhutan and wishes to thank the following organizations and individuals for their contribution in making this survey a success.

Royal Government of Bhutan granted approval to conduct the survey and a team from the MoH provided technical, monitoring and coordination support during the survey. Special thanks are due to Dr Ugyen Dophu, Director, Department of Public Health for his active participation and support.

We also acknowledge the support and assistance provided by the Royal Bhutan Police, the Royal Bhutan Army, Dzongkhag administration of Chhuka, Samdrup Jongkhar and Mongar during the field survey. Also, thanks are due to all the study site owners and managers without whose cooperation this survey would not have been possible.

We greatly appreciate the field work rendered by the local consultant Digital Shangri-La. The team was led by Mani Pradhan, Project Director and Karma Chogyel, Senior Consultant. Their hard work and commitment to working with the most at risk population for HIV/AIDS made this survey possible.

We are grateful to the team members of ICDDR,B who provided technical guidance and support throughout the project period in designing the survey, developing the survey tools, training for the enumerators, analysing the data and writing the report.

We appreciate and acknowledge the financial support provided by Dr. Sandra Rosenhouse and her team from the World Bank for moving this project forward.

Finally, we are extremely grateful to the hundreds of individuals for giving their valuable time to the enumerators and for the cooperation they extended to us.

ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BSS	Behavioural Surveillance Survey
BNCA	Bhutan Narcotics Control Agency
HIV	Human Immunodeficiency Virus
ICDDR,B	International Centre for Diarrhoeal Diseases Research, Bangladesh
IDU	Injection Drug User
MARP	Most at Risk Population
MOH	Ministry of Health
MSM	Males Who Have Sex With Males
NACP	National AIDS/STI Control Programme
PSU	Primary Sampling Unit
RBA	Royal Bhutan Army
RBP	Royal Bhutan Police
RGoB	Royal Government of Bhutan
RSRA	Rapid Situation and Response Assessment
STI	Sexually Transmitted Infection
UNODC ROSA	United Nations Office on Drugs and Crime, Regional Office of South Asia

TABLE OF CONTENTS

EXECUTIVE SUMMARY

A systematic surveillance system for HIV and risk behaviours is essential for a country to monitor its prevalence of HIV and the risks of an epidemic as well as trends over time. All available evidence in Bhutan suggests that HIV prevalence is indeed low in the country but at the same time, risks may be high. As Bhutan does not have a systematic surveillance system in place, it has not been possible to determine the magnitude of risk. Recognising this gap in information, the Ministry of Health (MoH), the Royal Government of Bhutan (RGoB) with support from the World Bank contracted the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) to help establish the first Behavioural Surveillance Survey (BSS) in Bhutan. ICDDR,B provided technical support to a local private firm, Digital Shangri-La in conducting the first BSS for HIV in Bhutan.

Based on the principles of Second Generation Surveillance, this first BSS was conducted among population groups considered to be most at risk for HIV in Bhutan. Information gathered through anecdotes, opinions of personnel in the MoH, from previous surveys conducted, from a pre-surveillance assessment, all contributed to the design of the BSS. Thus for drug users, an RSRA conducted on drug users in Thimphu helped in mapping drug user sites and also in deciding to broaden the definition of drug users to include those who use illicit drugs and not just those who inject drugs. The reason for the latter is because the numbers of injecting drug users (IDUs) was small. Information from other sources made clear that Bhutan does not have a visible organised female sex trade and that sex was usually sold by women through informal settings such as bars and for this reason bar girls were selected as a proxy for female sex workers. Lack of information on males who have sex with males (MSM) did not allow inclusion of this most at risk population (MARP) in the BSS. As clients of sex workers are considered to be key drivers of the HIV epidemic in Asia and as men who are on the move, often living away from their families, are likely customers of commercial sex, several groups of such mobile men were selected to represent this population group including the Royal Bhutanese Police (RBP), Royal Bhutanese Army (RBA), taxi drivers and truckers. In addition, as the neighbouring countries, India and Nepal both have higher rates of HIV and as migrant workers from these countries work in Bhutan it is likely that they also engage in sex with Bhutanese women either commercially or non-commercially while working in Bhutan. Thus bar girls, drug users, non-Bhutanese migrants, RBP, RBA, taxi drivers and truckers were selected from different parts of the country for BSS. The final selection of the population groups, definitions to be used for each population and geographical areas to be covered was made through a series of meetings held with the MoH and relevant stakeholders which are shown in Table I.

Table I: Population groups, their definitions and geographical areas for BSS, 2008

Population groups	Definition	Geographical areas
Drug users	Those who took illicit drugs in the last six months	• Thimphu
Bar girls	Girls working as waitresses, singers or helpers in bars	• Thimphu • Phuentsholing
Non-Bhutanese migrant workers	Non Bhutanese males currently working as temporary or seasonal construction workers/labourers	• Thimphu • Mongar
Truckers	Men currently working as truck drivers or their helpers	• Thimphu • Samdrup Jongkhar
Taxi drivers	Men currently working as taxi drivers	• Thimphu • Phuentsholing
RBP	Male members of the Royal Bhutanese Police	• Thimphu • Samdrup Jongkhar
RBA	Male members of the Royal Bhutanese Army	• Thimphu

The BSS used a two-stage sampling methodology with a time location mapping at the initial stage to identify primary sampling units and in the second stage, either a proportionate random sampling or a take-all approach was adopted to select respondents. Risk behaviours were determined through interviews using structured questionnaires. The staff conducting and supervising the interviews and two representatives from MoH were trained extensively by ICDDR,B for 12 days on basic concepts of BSS, BSS sampling methodology, mapping and interviewing skills, etc. Training was also provided on data entry and cleaning. Data analysis and report writing was carried out by ICDDR,B with inputs from Digital Shangri-La and MoH.
The survey was conducted in four cities (Thimphu, Mongar, Samdrup Jongkhar and Phuentsholing) from September to December 2008. The total sample size was 6541; 2051 individuals were approached for interview and 1976 (96.3%) completed the survey (Table II).

Table II: Sample sizes calculated and reached

Population groups	Geographical area	Required sample size	Numbers approached for interview	Numbers sampled
Drug Users	Thimphu	633	134	115
Bar girls	Thimphu	633	79	77
	Phuentsholing	633	28	25
Non-Bhutanese migrant workers	Thimphu	422	419	413
	Mongar	422	80	80
Truckers	Thimphu	633	103	98
	Samdrup Jongkhar	633	40	40
Taxi drivers	Thimphu	633	196	195
	Phuentsholing	633	84	73

Population groups	Geographical area	Required sample size	Numbers approached for interview	Numbers sampled
RBP	Thimphu	422	361	358
	Samdrup Jongkhar	422	104	91
RBA	Thimphu	422	423	411
Total		6541	2051	1976

As is apparent from Table II it was not possible to obtain the required sample size for almost all groups. However, this is the reality in Bhutan and therefore a take all approach was justified. In addition, there were 51 (2.5%) refusals and 24 (1.2%) decided to stop the interview without completing the questionnaire. Some differences were found in the level of education and age between those who completed the interviews and who refused/gave incomplete interviews among taxi drivers in Phuentsholing, RBP in Thimphu and RBP in Samdrup Jongkhar so that those who were more educated and younger were more likely to complete their interviews.
Some key demographic features across all population groups are shown in Tables IIIa and IIIb. The mean ages ranged between 20.2 to 33.8 years being lowest in bar girls in Thimphu and highest in taxi drivers in Phuentsholing. Education levels were generally low; lowest in non Bhutanese migrant workers of Mongar (2.9 years) and highest in drug users (9.5 years). Mean ages at first sex ranged from 16.4 and 20.1 years being lowest in drug users and highest in migrant workers, both in Thimphu.

Just over 100 drug users in Thimphu could be reached, and 11.3% were females. The mean duration of taking any kind of drugs was 4.9 years and the mean age of first taking any kind of drugs was 19.5 years. More than half of the drug users said they had taken drugs in the last month and the most frequently drug taken was cannabis (79.1%). Only 17 (14.8%) had ever injected drugs, all of whom were male and of these injecting drug users (IDUs) only six (35.3%) had injected in the last six months. Spasmo proxyvon was the most commonly injected drug. Among the six IDUs who injected in the last six months no one borrowed used needles/syringes during the last injection in the last six months however two had lent their used needles/syringes to others. Sharing of injection paraphernalia (other than needles/syringes) in the last six months was reported by two, both of whom shared the same ampoule. Efforts at quitting drugs sometime in their lives was reported by 70.4% and the most frequent methods were locking and isolating themselves at home (60.5%) followed by advice from friends/parents/relatives/family/teachers (58%).

Other than drug users themselves, questions on drug taking behaviours were asked to all the population groups sampled (Tables IIIa and IIIb). Although illicit drug use was mentioned by all groups, injecting was only mentioned by a few taxi drivers and truckers in Thimphu. In addition, four bar girls said they knew that their sex partners had injected drugs. Thus, it is very likely that there are drug users who are hidden and were not reached.

The main risk documented in drug users was the practice of risky sexual behaviours. However, approximately 14% said they had never had sex. Among the remaining, in the last year 71.3% had sex with spouse or regular sex partners while 32.4% of the male drug users bought sex from female sex workers. Males who bought sex had more than one sex partner in the last year and the last month. Among the female drug users approximately 15% sold sex in exchange of

money/gift/etc both in the last year and in the last month. Fortunately, 83.8% said they used a condom during last sex in the last year.

The total numbers of bar girls interviewed in the two cities were very few (N=102) especially in Phuentsholing (N=25) but it was considered important to include Phuentsholing as prior information suggested that there was a link between this city and India. This was confirmed in the BSS as close to half of the bar girls interviewed in Phuentsholing were Indian.

Not all the bar girls had experienced sex - 79.2% in Thimphu and 68% in Phuentsholing said they had ever had sex. In both cities 60% of the bar girls reported having any penetrative sex in the last month. Many bar girls were currently married (29.9% in Thimphu and 56% in Phuentsholing) and of these most were living with their husbands but despite that the majority had other regular sex partners (69.6% and 100% in Thimphu and Phuentsholing, respectively). Among the unmarried bar girls, 53.7% in Thimphu and 18.2% in Phuentsholing had regular sex partners. In the last month, 32.5% and 52% sold sex in exchange of money/gift/etc (referred to as commercial sex) in Thimphu and Phuentsholing respectively. The mean numbers of clients in a month was 2.2 in Thimphu and one in Phuentsholing and most of the sex partners were businessmen. Among those who had sex in the last month, 52.2% and 66.7% from Thimphu and Phuentsholing respectively used condom during any penetrative sex. Approximately 6% of the bar girls in the two cities were able to show a male condom during the interview but most girls knew where condoms were available with medical shops, health facilities and Daechong boxes being the three most common sources named. Easy access to condoms was reported by 28.6% and 36% of the bar girls in Thimphu and in Phuentsholing respectively. Among those who ever had sex, 39.3% and 29.4% complained of at least one STI symptom in the last year in Thimphu and Phuentsholing respectively (Table IIIa). Many bar girls experienced violence in the hand of bar managers and/or clients - approximately 16% were beaten/threatened in the last year in both cities and in Thimphu 7.8% were raped.

Several groups of men (migrants, RBP, RBA, truckers and taxi drivers), some more mobile than others, were sampled as potential clients of female sex workers and also as regular sex partners of non marital partners. Among these men, the proportions who had bought sex in the last year varied between groups and ranged from 20.9% in migrant workers of Thimphu to 65.5% of truckers in Samdrup Jongkhar (Tables IIIa and IIIb). Multiple commercial sex partners in a year were reported by all groups of men. Condom use during any type of penetrative sex in last month (among those who had penetrative sex in the last month) was reported more by migrant workers in Mongar (84.6%) and the lowest proportion reporting this was in truckers of Samdrup Jongkhar (38.9%). In general condom use was more common with commercial than non-commercial sex partners. Complaints of STI symptoms were not common and the highest proportion who complained of at least one STI symptom in the last year was in bar girls of Thimphu (39.3%).

There is a direct correlation between knowledge and adoption of safe behaviours. Knowledge on HIV and AIDS and access to services was variable for the different groups of MARPs (tables IIIa and IIIb) being lowest among non-Bhutanese migrant workers (approximately 5% had comprehensive knowledge and 0-1% had accessed services) and taxi drivers in Phuentsholing. The level of knowledge varied among population groups between cities so that in Thimphu fewer

bar girls were knowledgeable compared to truckers, taxi drivers or drug users. In contrast, in Phuentsholing bar girls had better knowledge than taxi drivers.

Another source of vulnerability is travelling to neighbouring countries where HIV prevalence is higher along with the practice of risky behaviours while abroad. Varying proportions from all groups sampled travelled abroad mainly to India where some bought/sold sex (Tables IIIa and IIIb). Amongst the bar girls 22 went abroad last year and only one sold sex while abroad and used a condom. Four female drug users travelled abroad where none sold sex. In contrast, higher, although variable, proportions of men from the different groups of men sampled said they had bought sex while travelling abroad last year and this was most commonly reported by truckers from Samdrup Jongkhar (41.2%) and drug users from Thimphu (39%). Condom use however was not uncommon during such sex acts with 100% of taxi drivers (in Thimphu and Phuentsholing) and truckers in Thimphu saying they used a condom during last commercial sex while abroad. The lowest proportions saying this was among migrant workers from Thimphu (43.8%). The latter had an overall low prevalence of condom use irrespective of the type of sex partner and the country where sex was being bought.

Based on the experiences gained and the finding of this BSS, a set of recommendations have been provided under two broad categories–

A. Strengthening surveillance (BSS and biological), continuing other efforts at gathering evidence, adapting sampling methodologies, and increasing capacity to institutionalise data gathering, analysis and triangulation. Specific recommendations for this include:

    i. Establish surveillance, both behavioural and biological, among MARPs. Agreement on MARPs, the geographical areas to be covered and the regularity at which surveillance will be conducted may be decided upon through consensus and will depend on available information from different sources.
    ii. Drop bar girls from BSS.
    iii. Consider a national sample for some groups especially mobile men.
    iv. Obtain information on groups where no or little information is available such as female sex workers and MSM.
    v. When possible try other methods of sampling for some of the populations such as sex workers, drug users and MSM.
    vi. Institutionalise surveillance, promote other research, and consider adding risk behaviour questions to demographic health surveys. Enhance capacities to conduct these and to triangulate different sources of data.

B. Modifying Programmes based on current evidence among MARPs

    i. Bar girls– available STI services need to become user friendly for bar girls, condoms must be made readily available in bars such that the girls may access them in a confidential manner and regular awareness Programmes that are conducted should include bar girls without stigmatizing sex workers.

ii. Drug users– new Programmes that have been initiated need to be continued, strengthened and expanded in evidence based manner.

iii. Non-Bhutanese migrant workers– HIV/STI prevention ranging from raising awareness, having easy access to condoms and STI treatment need to be made available to them. In order to enhance service uptake, either special services need to be considered or setting up systems for motivating them to use existing systems. A possible way may be by using peers.

iv. RBP and RBA - a uniform plan for training and providing services to these men is required.

v. Taxi drivers and truckers - planned training and services for HIV and STIs need to be provided to them and involving them in these activities may make those services more appropriate.

vi. As many of the mobile groups of men are married, a system of ensuring that their wives are also knowledgeable about HIV/STI and have easy access to services would protect them from future infections.

Table IIIa: Summary table of some selected risk behaviours in the different population groups sampled, BSS 2008

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Demographic characteristics					
Mean age in years	24.3 (23.3-25.3)	20.2 (19.1-21.3)	23.2 (20.0-26.5)	28.2 (27.5-29.0)	27.0 (25.8-28.3)
Mean years of schooling	9.5 (8.6-10.3)	4.4 (3.4-5.5)	3.1 (1.5-4.7)	4.6 (4.3-5.0)	2.9 (2.1-3.6)
Mean age in years at first sex (Denominator is among those who had sex and could recall)	N=93 16.4 (15.9-16.9)	N=61 17.2 (16.4-18.0)	N=17 17.9 (17.2-18.7)	N=277 20.1 (19.7-20.5)	N=52 18.9 (18.3-19.4)
Drug related risk behaviours					
Proportion used illicit drugs in the last year	100.0	3.9 (1.2-11.6)	16.0 (5.3-39.1)	7.0 (4.9-9.9)	18.8 (11.5-29.1)
Proportion injected drugs in the last year	5.2 (2.5-10.4)‡	0	0	0	0
Proportion of IDUs who lent used needle/ syringe last time in the last six months (Denominator is who injected drugs in the last six months)	N=6 33.3 (5.3-81.8)	-	-	-	-
Proportion of IDUs who shared injection paraphernalia in the last six months (Denominator is who injected drugs in the last six months)	N=6 33.3 (5.3-81.8)	-	-	-	-
Sexual risk behaviours					

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion ever had sex	86.1 (73.1-93.4)	79.2 (63.4-89.4)	68.0 (45.6-84.3)	67.1 (62.4-71.5)	65.0 (53.7-74.8)
Proportion had any type of penetrative sex in the last month	58.3 (50.0-66.1)	59.7 (40.5-76.4)	60.0 (38.6-78.1)	N=410[§] 3.9 (2.4-6.3)	16.3 (9.6-26.3)
Proportion had commercial sex in the last year[†]	Male drug users N=102 32.4 (23.9-42.1) Female drug users N=13 15.4 (1.7-65.5)	-	-	N=277 20.9 (16.5-26.2)	N=52 53.8 (39.9-67.2)
Proportion had commercial sex in the last month[†]	Male drug users N=102 13.7 (8.9-20.7) Female drug users N=13 15.4 (1.7-65.5)	N=61 29.5 (19.3-42.3)	N=17 76.5 (38.6-94.4)	N=277 2.9 (1.4-5.7)	N=52 23.1 (13.3-36.9)
Proportion ever used condom during sex (Denominator is among those who ever had sex)	N=99 68.7 (60.2-76.1)	N=61 52.5 (41.6-63.1)	N=17 64.7 (42.1-82.2)	N=277 27.1 (22.1-32.6)	N=52 53.8 (39.9-67.2)
Proportion used condom during any type of penetrative sex in last month (Denominator is who had penetrative sex in the last month)	N=67* 53.7 (44.1-63.0)	N=46 52.2 (40.1-64.0)	N=15 66.7 (40.1-85.7)	N=16 43.8 (20.4-70.2)	N=13 84.6 (49.0-96.9)
Proportion used condom last time in any type of sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=68 83.8 (72.7-91.0)	N=32 87.5 (69.2-95.6)	N=11 72.7 (35.4-92.8)	N=75 73.3 (62.0-82.3)	N=28 78.6 (58.3-90.6)

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion used condom during last sex with commercial female partner in last year (Denominator is who are male and reported sex with commercial female sex partners in the last year)	N=33 69.7 (56.1-80.5)	-	-	N=58 34.5 (23.1-47.9)	N=28 71.4 (51.1-85.7)
Proportion used condom during last sex with a regular female sex partner in the last year (Denominator is who are male and reported sex with regular female sex partner in the last year)	N=82 62.2 (53.0-70.6)	-	-	N=125 43.2 (34.7-52.1)	N=18 66.7 (40.3-85.6)
Proportion used condom in the last vaginal sex with a new commercial sex partner in the last month (Denominator is who had new sex partners in the last month and had vaginal sex)	-	N=8 37.5 (7.9-80.8)	N=0 -	-	-
Proportion used condom in the last vaginal sex with a regular commercial sex partner in the last month (Denominator is who had regular sex partners	-	N=18 50.0 (20.6-79.4)	N=13 53.8 (20.5-84.1)	-	-

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
in the last month and had vaginal sex)					
Knowledge of HIV/AIDS/STI and availability of services					
Proportion had comprehensive knowledge of HIV/AIDS[ʃ]	32.2 (19.9-47.6)	14.3 (9.0-21.9)	32.0 (12.5-60.8)	4.6 (2.9-7.1)	5.0 (1.8-12.8)
Proportion reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=99 7.1 (3.7-13.2)	N=61 39.3 (24.4-56.6)	N=17 29.4 (10.8-59.0)	N=277 3.2 (1.7-6.1)	N=52 1.9 (0.3-13.2)
Proportion participated in any HIV/AIDS/STI intervention programme in the last year	23.5 (12.7-39.4)	18.2 (10.0-30.8)	12.0 (3.4-34.5)	1.0 (0.4-2.6)	0
Mobility related risk behaviours					
Proportion who travelled to another country in the last year	39.1 (31.2-47.7)	15.6 (8.7-26.3)	40.0 (20.0-64.0)	46.7 (41.9-51.6)	58.8 (47.5-69.2)
Proportion who bought sex while abroad in the last year (Denominator is who are males and visited another country in the last year)	N=41 39.0 (23.7-56.8)	-	-	N=193 8.3 (5.1-13.2)	N=47 29.8 (18.1-44.8)
Proportion who sold sex (received kind/gift/etc for sex) while abroad in the last year	N=4 0	N=12 8.3 (0.6-58.4)	N=10 0	-	-

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
(Denominator is who are females and visited another country in the last year)					
Proportion who used condom in the last commercial sex while abroad in the last year (Denominator is who had commercial sex while abroad last year)	N=16 93.8 (58.1-99.4)	N=1 100.0	N=0 -	N=16 43.8 (20.4-70.2)	N=14 78.6 (46.0-94.0)

Note: figures within brackets refer to 95% confidence interval

‡ For drug user, this is proportion injected drug in the last six month

§Three observations were missing

†Commercial sex for males refers to giving money/gifts in exchange for sex and for females it refers to receiving money/gifts in exchange for sex

*Two observations were missing

∫ Comprehensive knowledge of HIV was computed among the respondents who gave correct answers to five questions regarding route of transmission of HIV, i.e., people can reduce the risk of HIV by using condoms, a person cannot get HIV from mosquito bites, a person cannot get HIV by sharing a meal with someone who is HIV infected, risk of HIV can be reduced by avoiding multiple sex partners and a healthy looking person can have HIV.

Table IIIb: Summary table of some selected risk behaviours in the different population groups sampled, BSS 2008 (Continued)

Indicators	RBA, Thimphu (N=411 unless otherwise stated)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Demographic characteristics							
Mean age in years	29.2 (28.6-29.9)	27.0 (26.6-27.5)	29.1 (28.0-30.2)	30.9 (29.6-32.2)	33.8 (31.3-36.3)	26.6 (25.4-27.9)	28.8 (24.7-32.9)
Mean years of schooling	6.9 (6.7-7.1)	6.9 (6.7-7.1)	4.4 (3.7-5.1)	6.5 (5.9-7.1)	5.3 (4.5-6.0)	4.0 (3.0-5.1)	3.0 (2.4-3.5)
Mean age at first sex (Denominator is among those who had sex and could recall)	N=407 17.9 (17.7-18.2)	N=347 18.5 (18.3-18.7)	N=91 16.9 (16.5-17.3)	N=190 18.1 (17.4-18.8)	N=73 16.6 (16.2-17.0)	N=87 17.1 (16.6-17.6)	N=27 19.1 (18.3-20.0) ††
Drug related risk behaviours							
Proportion used any drug other than alcohol and cigarettes in the last year	4.4 (2.8-6.9)	1.1 (0.4-3.0)	2.2 (0.5-8.6)	18.5 (12.8-25.9)	13.7 (5.9-28.5)	13.3 (9.5-18.2)	7.5 (5.1-11.0)
Proportion injected drugs in the last year	0	0	0	0.5 (0.01-2.8)	0	1.0 (0.2-5.1)	0
Sexual risk behaviours							
Proportion ever had sex	99.0 (97.4-99.6)	96.9 (94.5-98.3)	100.0	97.4 (91.8-99.2)	100.0	88.8 (80.3-93.9)	72.5 (53.3-85.9)
Proportion had any type of penetrative sex in the last month	N=407 70.3 (65.6-74.5)	50.6 (45.4-55.7)	69.2 (58.8-78.0)	84.1 (71.1-91.1)	83.6 (69.2-92.0)	70.4 (59.0-79.7)	45.0 (28.9-62.2)
Proportion had commercial sex in the last year†	N=407 22.4 (18.6-26.7)	N=347 25.9 (21.6-30.8)	N=91 29.7 (21.1-40.0)	N=190 41.1 (33.5-49.1)	N=73 26.0 (8.3-57.8)	N=87 39.1 (27.6-51.9)	N=29 65.5 (11.2-96.6)
Proportion had commercial sex in the last month†	N=407 4.7 (3.0-7.2)	N=347 3.5 (2.0-6.0)	N=91 6.6 (2.9-14.1)	N=190 35.3 (29.5-41.5)	N=73 12.3 (1.6-55.2)	N=34 20.6 (10.1-37.5)	N=19 31.6 (2.3-90.0)
Proportion ever used condom during sex (Denominator is among those who ever had sex)	N=407 52.3 (47.5-57.2)	N=347 58.8 (53.5-63.9)	N=91 67.0 (56.6-76.0)	N=190 74.2 (66.4-80.7)	N=73 76.7 (57.9-88.7)	N=87 72.4 (62.1-80.8)	N=29 65.5 (29.9-89.4)

Indicators	RBA, Thimphu (N=411 unless otherwise stated)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion used condom during any type of penetrative sex in last month (Denominator is who had penetrative sex in the last month)	N=286 46.2 (40.4-52.0)	N=181 49.2 (41.9-56.5)	N=63 63.5 (50.7-74.7)	N=164 75.6 (69.3-81.0)	N=61 73.8 (52.5-87.7)	N=69 66.7 (54.5-77.0)	N=18 38.9 (14.5-70.5)
Proportion used condom last time in any type of sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=213 71.4 (64.9-77.1)	N=204 96.1 (92.3-98.0)	N=61 85.2 (73.6-92.3)	N=141 94.3 (86.7-97.7)	N=56 73.2 (69.5-76.6)	N=63 79.4 (67.6-87.6)	N=19 73.7 (18.5-97.2)
Proportion used condom during last sex with commercial female partner in last year (Denominator is who are male and reported sex with commercial female sex partners in the last year)	N=91 84.6 (75.5-90.8)	N=90 61.1 (50.5-70.8)	N=27 81.5 (60.9-92.5)	N=78 91.0 (82.9-95.5)	N=19 100.0	N=34 97.1 (86.5-99.4)	N=19 84.2 (70.1-92.4)
Proportion used condom during last sex with a regular female sex partner in the last year (Denominator is who are male and reported sex with regular female sex partner in the last year)	N=329 37.7 (32.6-43.1)	N=304 59.5 (53.9-64.9)	N=74 59.5 (47.7-70.2)	N=177 72.9 (65.7-79.0)	N=62 51.6 (43.3-59.8)	N=73 53.4 (40.0-66.3)	N=28 64.3 (30.7-88.0)
Knowledge of HIV/AIDS/STI and availability of services							
Proportion had comprehensive knowledge of HIV/AIDS[ʃ]	33.6 (29.2-38.3)	17.0 (13.5-21.3)	38.5 (28.9-49.0)	37.9 (24.7-53.3)	8.2 (0.7-52.2)	31.6 (16.3-52.5)	15.0 (8.2-25.9)
Proportion reported at least	N=407	N=347	N=91	N=190	N=73	N=87	N=29

Indicators	RBA, Thimphu (N=411 unless otherwise stated)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
one STI symptom in the last one year (Denominator is who ever had sex)	1.2 (0.5-2.9)	1.2 (0.4-3.0)	11.0 (5.9-19.4)	13.7 (7.5-23.6)	1.4 (0.1-22.4)	1.1 (0.1-10.1)	6.9 (2.2-19.6)
Proportion participated in any HIV/AIDS/STI intervention program in the last year	18.7 (15.2-22.8)	0.8 (0.3-2.6)	49.5 (39.2-59.8)	26.7 (17.3-38.7)	1.4 (0.1-22.4)	19.4 (10.6-32.9)	12.5 (1.3-60.7)
Mobility related risk behaviours							
Proportion who travelled to another country in the last year	21.7 (17.9-25.9)	15.9 (12.5-20.1)	53.8 (43.4-64.0)	47.7 (35.9-59.7)	90.4 (78.1-96.1)	62.2 (50.5-72.7)	42.5 (26.4-60.4)
Proportion who bought sex while abroad in the last year (Denominator is who are males and visited another country in the last year)	N=89 15.7 (9.4-25.0)	N=57 7.0 (2.6-17.7)	N=49 18.4 (9.6-32.3)	N=93 18.3 (8.4-35.2)	N=66 24.2 (1.0-48.0)	N=61 23.0 (12.0-39.4)	N=17 41.2 (4.5-91.2)
Proportion who used condom in the last commercial sex while abroad in the last year (Denominator is who had commercial sex while abroad last year)	N=14 100.0	N=4 75.0 (4.1-99.5)	N=9 77.8 (33.0-96.1)	N=17 100.0	N=16 100.0	N=14 100.0	N=7 85.7 (0.6-100.0)

Note: figures within brackets refer to 95% confidence interval

† Commercial sex for males refers to giving money/gifts in exchange for sex and for females it refers to receiving money/gifts in exchange for sex

†† Two respondents said they did not know and were excluded in the analysis

ʃ Comprehensive knowledge of HIV was computed among the respondents who gave correct answers to five questions regarding route of transmission of HIV, i.e., people can reduce the risk of HIV by using condoms, a person cannot get HIV from mosquito bites, a person cannot get HIV by sharing a meal with someone who is HIV infected, risk of HIV can be reduced by avoiding multiple sex partners and a healthy looking person can have HIV.

1. INTRODUCTION

Bhutan is a small Asian country of around 38,000 square km with a population of less than one million [1]. The country is entirely surrounded by two great populous nations of China and India where the HIV epidemic is well established.

The first case of HIV was detected in Bhutan in 1993 and the data to date suggests that Bhutan is a low prevalence country for HIV with adult general population prevalence at below 0.01% [2]. The National AIDS Control Programme (NACP) has reported a cumulative total of 160 HIV infected cases, 80 males and 80 females, up to November 2008 [2]. However, as Bhutan does not have a surveillance system in place it is not possible to assess the true prevalence of HIV and associated risk behaviours. Several HIV risk behaviour surveys among the general population have been conducted at different times. In 2006, a general population survey was conducted among 3235 adults and youth in eight rural districts and four urban cities by the Ministry of Health (MoH) with technical assistance from ICDDR,B [3]. This survey revealed that although many males and females had extramarital and premarital sex, condom use was not very uncommon, most had good knowledge of HIV/AIDS and had access to health care facilities. This survey also revealed that commercial sex did take place and illicit drug use in some cases could be a problem. Although this survey provided data on a random sample of the general population of Bhutan, it was not designed to provide data on sub-population groups who are likely to be more vulnerable to or at risk of HIV.

It is generally agreed that HIV first enters groups of people who practice behaviours that put them at greater risk of HIV, commonly referred to as the Most at Risk Populations (MARPs). A few studies have been conducted targeting MARPs in Bhutan. In 2004, a survey was conducted in six different Dzongkhags to identify or review vulnerable groups such as mobile populations; truck drivers and migrant workers, drug users, sex workers [4]. The findings of this report suggest that many of the MARPs were hidden and that commercial sex work was not yet an organised industry. Female sex workers often did not identify themselves as sex workers as they were involved in casual sex, exchanging sex for favours and sometimes money. Information regarding males who have sex with males (MSM) was non-existent. Casual sex with non-regular partners was high and almost all males reported multiple sex partners with strangers met in markets, work camps, highway hotels, music bars or on night hunts informally condoned in the villages. Truck or taxi drivers also had multiple sex partners. This survey also found that drug users, particularly injecting drug users (IDUs) were not readily accessible. A more recently conducted pre-surveillance survey in 2007 among pre-selected MARPs in four Dzongkhags provided similar findings [5]. A rapid situation and response assessment (RSRA) was conducted under a project of UNODC ROSA in 2006 on drug users in Thimphu through which 200 drug users were surveyed [6]. The RSRA identified that 19% of these drug users ever injected drugs, although there were no current injectors and approximately 20% had ever taken heroin. This was followed by another RSRA in 2008 on the drug use situation in schools and communities in Phuentsholing [7]. This RSRA revealed that 30% of the students in lower grades (class VI-VIII) and a higher proportion in the higher grades had used illicit drugs some time in their lives. Although everyday use of drugs was reported by very few students, occasional use was not uncommon. More recently, a national baseline assessment on drug use has been completed where HIV

testing was an added component– preliminary information is that none were HIV positive [8].

These studies and surveys provide some insight into the possible risks and vulnerabilities that Bhutan faces in terms of an HIV epidemic. However, for a country to monitor its prevalence and risks it is necessary to have an appropriately designed surveillance system in place which addresses both infection prevalence and risk behaviours. This is the basic principle of Second Generation Surveillance which is a flexible methodology so that the design is adapted to a country situation [9]. For this purpose, the selection of relevant population groups is essential based on existing information on the presence of MARPs, the geographical areas where they are present, rough ideas of numbers and accessibility for the survey. In Bhutan the MOH recognised the need of setting up a surveillance system and, particularly that of BSS as it would allow monitoring the risk of an HIV epidemic. For this purpose, the MOH contracted the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) to provide technical support in establishing the first BSS in Bhutan which was conducted by Digital Shangri-La, with financial support from the World Bank and the Royal Government of Bhutan (RGoB).

This report presents the findings and conclusions from the first round of BSS in Bhutan that was conducted between September-December 2008. The information obtained can serve as a tool to inform Programme policy and interventions, to advocate for increased resources and investment in prevention, aid in targeting interventions, and in measuring their progress and impact.

2. METHODOLOGY AND TECHNICAL APPROACH

2.1 Population groups

Since all available information suggests that Bhutan is a low prevalence country for HIV, therefore according to the guideline for the Second Generation HIV Surveillance System [9] population groups selected for BSS need to be focused on MARPs.

2.1.1 Selection of population groups

Selection of population groups for BSS was based on the following:

- Findings from pre-surveillance assessment [5]
- RSRA among the drug users in Thimphu [6]
- Informal discussion with the Ministry of Health, Bhutan Narcotics Control Agency (BNCA) and ex drug users

Population groups and the geographical areas that were covered during the pre-surveillance assessment [5] conducted in four districts during July-September 2007 are shown in Table1 below.

Table 1: Population groups and geographical areas covered in pre-surveillance assessment, 2007 [5]

Population groups	Geographical areas
Truckers	• Thimphu • Phuentsholing • Samdrup Jongkhar
Taxi drivers	• Thimphu • Phuentsholing • Samdrup Jongkhar • Mongar
Non-Bhutanese migrant workers	• Thimphu • Mongar
Bar girls	• Thimphu
Female sex workers	• Thimphu • Phuentsholing
Royal Bhutan Police (RBP)	• Phuentsholing • Samdrup Jongkhar
Royal Bhutan Army (RBA)	• Phuentsholing • Samdrup Jongkhar
Drug users	• Thimphu

Prior to the final selection of the population groups, a series of meetings were held with the MOH. Following these meetings a draft proposal on the selection of population groups, geographical areas to be covered and definitions to be used for each population were shared with all relevant stakeholders at the MOH. The population groups and the geographical areas from where they were to be sampled for the BSS were finalised based on a consensus reached through these meetings which are shown in Table 2.

Table 2: Population groups and geographical areas for BSS, 2008

Population groups	Geographical areas
Drug users	• Thimphu
Bar girls	• Thimphu • Phuentsholing
Non-Bhutanese migrant workers	• Thimphu • Mongar
Truckers	• Thimphu • Samdrup Jongkhar
Taxi drivers	• Thimphu • Phuentsholing
RBP	• Thimphu • Samdrup Jongkhar
RBA	• Thimphu

The definition for each population group that was used for enrolment of participants in the BSS is provided in the box below:

Drug users: Those who took illicit drugs (except alcohol and cigarette) in the last six months

Bar girls: Girls working as waitresses, singers or helpers in bars

Non-Bhutanese migrant workers: Non Bhutanese males currently working as temporary or seasonal construction workers/labourers

Taxi drivers: Men currently working as taxi drivers

Truckers: Men currently working as truck drivers or their helpers

RBA: Male members of the Royal Bhutanese Army

RBP: Male members of the Royal Bhutanese Police

2.2 Sample size calculation

Sample size for each of the population groups was calculated using the following standard formula [10]

$$n = \frac{(Z_{alpha})^2 P(1-P)}{d^2}$$

Where,

n	= required sample size
P	= baseline prevalence
Z_{alpha}	= level of confidence
d	= margin of error

P indicates a risk behaviour such as condom use in the last commercial sex act. As prior estimates of risk behaviours for the population groups under consideration were not available, therefore, it was assumed that 50% of the each population groups used a condom in the last commercial sex act in the last year. Using 95% confidence level and ±5% margin of error the calculated sample size for each population group was 384. Considering a 10% non- response rate, the required sample size was 422. However, for clustering of the population groups (where applicable), a design effect 1.5 was used to inflate the sample size. Therefore, the final sample size for each of the population groups was 422X1.5=633. The design effect was applied for all groups except the RBA, RBP and no-Bhutanese migrants where the targeted sample size remained at 422.

2.3 Mapping and sampling

A mapping exercise was done in all study sites to identify the locations or spots where individuals belonging to a particular MARP are available and accessible, which was the basis of developing a sampling frame. These locations or spots were also considered as primary sampling units (PSUs). The definitions of spots/PSUs for each MARP are outlined in Table 3.

Table 3: Definition of spots/PSUs from where individuals in each population group were sampled

Population groups	Spot/PSU definition
Drug users	A spot/PSU was a specific location where at least one drug user was found in a specific time frame
Bar girls	A spot/PSU was a specific bar where at least one bar girl was seen in a specific time frame
Non-Bhutanese migrant workers	A spot/PSU was a specific construction camp where construction workers were living
Taxi drivers	A taxi stand was considered to be a spot/PSU where at least one taxi was found in a specific time frame
Truckers	A truck stand was considered to be a spot/PSU where at least one truck was found parked in a specific time frame
RBP	A spot/PSU was a specific police building/hut where members of the Royal Bhutan Police were living
RBA	A spot/PSU was a specific army building/hut where members of the Royal Bhutan Army were living

For most groups mapping was conducted at specific times as it was known that those individuals were likely to be present at those spots at those times (e.g. bar girls were more commonly found in the evenings). However, as behaviours of individuals may differ at different times even in the same location, mapping for some groups was conducted in more than one time frame (e.g. for taxi drivers and truckers the same spot was mapped in the morning and in the afternoon). However, for non-Bhutanese migrants, RBP and RBA spots/PSUs were more fixed since the members of these groups permanently lived in those spots. Therefore, no specific time frame was considered for mapping these groups.

The BSS study team held discussions with a number of key informants to identify spots/PSUs. Members of the general community, MARP, health workers, etc were consulted to ensure the accuracy of the information obtained. The field team also observed spots to estimate the possible size of each MARP and the time frame. The field team finalized the PSUs along with the time frame after matching their observation with the information collected from the key informants. The results of the mapping exercise provided the basis for determining the available sample size for each of the selected population groups. Table 4 shows the information obtained through the mapping exercise.

Table 4: Information obtained through mapping

Population group	Geographical area	Date started	Date ended	Time frame for mapping	Number of PSUs identified through mapping	Total number of individual seen during mapping
Drug Users	Thimphu	24.9.08	26.9.08	5pm-10pm	22	133
Bar girls	Thimphu	24.9.08	25.9.08	6pm-11pm	11	85
	Phuentsholing	6.10.08	7.10.08	6pm-11pm	8	21
Non-Bhutanese migrant workers	Thimphu	24.9.08	25.9.08	7 am-8am 5pm-11pm	43	1604
	Mongar	30.9.08	30.9.08	7 am-8am 5pm-11pm	5	88
Truckers	Thimphu	25.9.08	26.9.08	7am-6pm	20	82
	Samdrup Jongkhar	5.10.08	6.10.08	7am-6pm	6	36
Taxi drivers	Thimphu	24.9.08	25.9.08	7am-6pm	14	204
	Phuentsholing	6.10.08	6.10.08	7am-6pm	5	89
RBP	Thimphu	24.9.08	24.9.08	No specific time frame	47	376
	Samdrup Jongkhar	5.10.08	6.10.08	No specific time frame	21	111
RBA	Thimphu	24.9.08	25.9.08	No specific time frame	55	676

Thus, the BSS used a two-stage sampling methodology. At the initial stage of the survey, a time location mapping technique was used to identify PSUs and in each PSU the total number of respondents was counted. In the second stage, if the number of individuals mapped exceeded the required sample size, a proportionate random sampling technique was used in the PSUs (with non-Bhutanese migrants and RBA in Thimphu only). If on the other hand, the total number of individuals mapped was the same or less than the required sample size a take-all approach was adopted (drug users, bar girls, non-Bhutanese migrants in Mongar, truckers, taxi drivers, RBP and RBA in Samdrup Jongkhar). Table 5 summarises the sampling techniques used.

Table 5: Time locations followed during interview of the different population groups

Population groups	Geographical area	Required sample size	Sampling approach
Drug Users	Thimphu	633	Take all
Bar girls	Thimphu	633	Take all
	Phuentsholing	633	Take all
Non-Bhutanese migrant workers	Thimphu	422	Proportionate random sampling
	Mongar	422	Take all
Truckers	Thimphu	633	Take all
	Samdrup Jongkhar	633	Take all
Taxi drivers	Thimphu	633	Take all
	Phuentsholing	633	Take all
RBP	Thimphu	422	Take all
	Samdrup Jongkhar	422	Take all
RBA	Thimphu	422	Proportionate random sampling

Table 6 summarises the final interview status for each of the MARPs in the selected geographical areas.

Table 6: Interview status for each MARP

Population groups	Geographical area	Interview start date	Interview end date	Approached for interview	Incomplete questionnaire	Refusal	Interview completed
Drug users	Thimphu	2/11/08	3/12/08	134	12	7	115
Bar Girls	Thimphu	2/11/08	10/11/08	79	0	2	77
	Phuentsholing	2/11/08	7/11/08	28	0	3	25
Non-Bhutanese Migrant workers	Thimphu	29/9/08	10/10/08	419	1	5	413
	Mongar	10/10/08	13/10/08	80	0	0	80
Truckers	Thimphu	14/10/08	4/12/08	103	1	4	98
	Samdrup Jongkhar	17/10/08	8/12/08	40	0	0	40
Taxi drivers	Thimphu	14/10/08	09/11/08	196	1	0	195
	Phuentsholing	2/11/08	10/11/08	84	3	8	73
RBP	Thimphu	25/11/08	09/12/08	361	1	2	358
	Samdrup Jongkhar	13/10/08	18/10/08	104	2	11	91
RBA	Thimphu	16/11/08	29/11/08	423	3	9	411
Total				2051	24 (1.2%)	51 (2.5%)	1976 (96.3%)

2.4 Development of survey tools

A draft set of questionnaires along with questionnaire guidelines, to be used during interview, for each of the MARPs selected for BSS was developed by ICDDR,B and reviewed extensively by personnel from the MOH. Changes were made based on the feedback and training was provided to the BSS team using these tools. During the training period BSS mapping formats and questionnaires were also field tested. The tools (mapping formats, questionnaires and interview guidelines) were finalised based on the experience from the field testing.

2.5 Personnel and training

The local consulting firm Digital Shangri-La conducted all field activities for which they hired field supervisors and enumerators with some experience in conducting field surveys. A total of 14 interviewers and three supervisors were recruited. The staff and two representatives from MOH were trained extensively by ICDDR,B for 12 days. Major areas covered during the training sessions included basic concept of BSS, an overview on HIV/AIDS and STIs, current HIV/AIDS scenario in Bhutan, mapping methodology and mapping formats, mapping and interviewing skills, detailed discussion on questionnaires, roles and responsibilities of an enumerator, standardising questionnaires in different local languages (Dzongkha, Sharchop, Nepalese and Hindi) through practise sessions, etc. Mock interview sessions at the training venue and field testing of the survey tools were also done by the field staff in the presence of Digital Shangri-La and ICDDR,B.

2.6 Informed consent and confidentiality

Interviewers were instructed to ensure that interviews were conducted in private (out of earshot of other people). All potential participants were given a simple explanation about the objectives of the surveillance and their verbal permission was sought for the interview. Potential interviewees were reassured that the survey would be anonymous; the information they would provide would be kept confidential and would only be used for the purposes of the survey. They were also informed that they could terminate the interview at any time they wished.

2.7 Quality control

In order to ensure consistency and to minimize errors, each completed mapping format and questionnaire was checked by the interviewers on the spot for completeness and inconsistencies. On the same day of the mapping or interview, interviewers crosschecked each other's questionnaires and this was finally checked by the field supervisors to resolve any inconsistencies after discussion with the respective interviewers. In addition, personnel from the MOH also monitored the processes through field visits at the time of mapping and while interviews were being conducted.

2.8 Data entry and analysis

Data were entered twice using Epi-Info for Windows Version 3 and range and consistency checks were incorporated in the data entry screens. Cleaned data files were converted into STATA data file format by using Stat Transfer Version 9. Data were analyzed using STATA Inter-Cooled Version 10 for Windows package. Descriptive analyses were conducted by running frequency tables, calculating means, medians and confidence intervals. While comparing means or proportions between sites, non-overlapping 95% confidence intervals were considered as being statistically significant at the 5% level.

2.9 Limitations of the BSS

The limitations of the BSS are briefly listed below.

i. Representativeness of MARPs

Developing a sampling frame such that sampling is representative of a population group relies on prior information on those population groups. For the more hidden MARPs included in this BSS (female sex workers and drug users), the available information was not adequate to design a reliable sampling frame. For female sex workers, bar girls were used as a proxy, and accordingly bars were mapped. However, the data revealed that only a small proportion of bar girls are likely involved in the sex trade. Without a better understanding of how the sex trade operates it will be difficult to conduct BSS on female sex workers. Similarly for drug users, mapping was conducted on limited information so that it is likely that all drug users were not sampled. Thus those sex workers and drug users who did not frequent the spots identified were not included in the sampling frame.

ii. Difficulties faced in the field

Sampling in the field with marginalized population groups is difficult. Challenges are faced as most groups that were sampled operate in crowded areas or move around frequently. Further, police raids and community reactions can all lead to displacement of people, so that the "spots" mapped may change or altogether disappear. Surveillance staff also faced problems in the field because of non-response by some of the respondents.

iii. Small sample size for most MARPs

Other than migrants and RBA, all other MARPs sampled did not reach the required sample size. This will make interpretation difficult especially when BSS is repeated in the future and trends are analysed. However, as this appears to be the reality in Bhutan, one may consider a national sample for some groups' especially mobile men.

3. RESULTS

This section provides results from seven most at risk groups (drug users, bar girls, non-Bhutanese migrant workers, Royal Bhutan Police, Royal Bhutan Army, taxi drivers and truckers). The survey was conducted in four cities (Thimphu, Mongar, Samdrup Jongkhar and Phuentsholing) from September to December 2008. A total of 2051 individuals were approached for interview and 1976 (96.3%) completed the survey. There were 51 (2.5%) refusals and 24 (1.2%) decided to stop the interview without completing the questionnaire. Some selected socio-demographic and Programmatic variables (such as age, years of schooling, marital status and involvement with HIV/AIDS/ STI intervention Programmes in the last year) were compared between those who completed the interviews and who refused/gave incomplete interviews and differences found were:

- Taxi drivers in Phuentsholing and RBP in Thimphu who refused/gave incomplete interviews had lower mean years of schooling than those who completed the interviews ($p<0.05$ for both)
- RBP in Samdrup Jongkhar who refused/gave incomplete interviews were older than those who completed the interviews ($p<0.05$)

Therefore, the results from these groups should be interpreted carefully.

3. 1 Drug Users

Socio-demographic characteristics (Table 7, annexe 1, 2)

Of the 115 drug users interviewed in Thimphu, 102 (88.7%) were males and 13 (11.3%) were females. A little more than half of the drug users were 15-24 years of age and the remaining 47% were between 25-49 years. The average age of the drug users was 24.3 years. More than one third had more than 10 years of schooling; only three had no schooling. Students comprised 29.6% of the drug users sampled and a similar proportion said they were unemployed (30.4%). Almost all lived with their families and relatives; none lived on the streets. Among those drug users who had come from another city, the largest number was from Phuentsholing (annexe 1). The ethnic groups that they belong to are shown in annexe 2. Most drug users (71.3%) were never married. Among the 26 who were currently married, 96.2% were living with their spouse and 42.3% had other regular sex partners (in addition to their spouse). Among the currently unmarried drug users 59.6% had regular sex partners. The average age at first sex was 16.4 years.

Table 7: Socio-demographic characteristics

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Gender of drug users	
Male	88.7 (77.0-94.9)
Female	11.3 (5.1-23.0)
Age (in years)	
<15	0
15-24	53.0 (43.5-62.3)
25-49	47.0 (37.7-56.5)
>49	0
Mean age (in years)	24.3 (23.3-25.3) M=24.0 (20.0-27.0)
Years of schooling	
Never attended school	2.6 (0.8-8.3)
1-5	7.8 (3.5-16.6)
6-10	54.8 (43.7-65.4)
>10	34.8 (22.7-49.1)
Mean years of schooling	9.5 (8.6-10.3) M=10.0 (9.0-12.0)
Other education (Denominator is who had no schooling)	N=3
Non-Formal education	0
Monastic institution	33.3 (0.1-99.7)
None	66.7 (0.3-99.9)
Main occupation in the last 6 months	
Student	29.6 (20.4-40.8)
House wife	0.9 (0.1-7.0)
Civil service (officer)	3.5 (1.3-8.7)
Civil service (clerk)	9.6 (5.4-16.5)
Business	13.9 (8.4-22.1)
Skilled labour	11.3 (6.3-19.6)
Unemployed	30.4 (22.3-4.0)
Drug peddler	0.9 (0.1-6.6)
Mean income in the last month (Nu)	N=106[§] 3854.2 (3043.7-4664.8) M =2500.0 (0.0-6000.0)
Mostly lived with	
Alone	6.1 (2.7-13.0)
With parents/siblings	54.8 (45.4-63.8)
With spouse	12.2 (7.6-18.9)
With relatives	15.7 (9.2-25.3)
With friends	11.3 (4.7-24.7)
Duration of stay in this city	N=113[‡]
Whole life	42.5 (28.6-57.6)
≤10 years	45.1 (30.7-60.5)
>10 years	12.4 (8.1-18.4)

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Marital status Currently married Never married Formerly married (separated/widower/divorced)	 22.6 (16.2-30.6) 71.3 (61.9-79.2) 6.1 (2.9-12.2)
Proportion of drug users who were currently living with spouse (Denominator is who were currently married)	N=26 96.2 (72.8-99.6)
Proportion of drug users who had any regular sex partners other than spouse	55.7 (45.4-65.5)
Proportion of married drug users who had any regular sex partner besides spouse (Denominator is who were currently married)	N=26 42.3 (24.0-63.0)
Proportion of currently unmarried drug users who had any regular sex partner (Denominator is who were never or formerly married)	N=89 59.6 (47.1-70.9)
Mean age at first sex (in years) (Denominator is who ever had sex and could recall)	16.4 (15.9-16.9) M =17.0 (15.0-19.0) N=93

§ Nine respondents said they did not know and were excluded from the analysis
‡ Two respondents said they did not know and were excluded from the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Drug taking history (Table 8)

The mean duration of taking any kind of drugs was 4.9 years and the mean age of first taking any kind of drugs was 19.5 years. More than half of the drug users said they had taken drugs in the last month and the most frequently taken drug in the last month was cannabis (79.1%). On an average, drugs were taken more than twice in the last one day. Most of the drug users had taken drugs in a group, either sometimes or always. Only 17 (14.8%) of the drug users had ever injected drugs of whom only six (35.3%) had injected in the last six months. All injecting drug users (IDUs) were males. Spasmo proxyvon was the most commonly injected drug. The average number of injections taken among those who had injected in the last six months was 4.8 times, i.e. less than once a month. The IDUs preferred injecting either always or sometimes in a group; none injected alone.

Table 8: Drug taking history

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Mean duration of taking any kind of drugs (in years)	N=114[§] 4.9 (4.0-5.8) M =4.0 (2.0-7.0)
Mean age (in years) of first initiation into any kind of drugs	N=114[§] 19.5 (18.7-20.2) M=19.0 (17.0-22.0)
Type of drugs taken in the last month*	
Alcohol	55.7 (40.0-70.2)
Heroin	2.6 (0.9-7.4)
Cannabis	87.8 (76.8-94.0)
Alcohol mixed with other drugs (Poly)	7.0 (3.0-15.5)
Cocktail of drugs	3.5 (1.1-10.5)
Dendrite/Correction fluid/Petrol	30.4 (20.6-42.4)
Spasmo proxyvon (SP)	38.3 (26.6-51.4)
Dextroproxyphene (Relipen)	43.5 (32.6-55.1)
Nitrazepam (Nitrosun N-10)	45.2 (36.3-54.4)
Codeine containing cough syrup	11.3 (7.1-17.6)
Ketamine	0.9 (0.1-5.8)
Type of drugs taken in the last six months*	
Alcohol	56.5 (39.1-72.5)
Heroin	7.0 (4.0-11.8)
Cannabis	85.2 (76.1-91.3)
Alcohol mixed with other drugs (Poly)	7.0 (3.0-15.5)
Cocktail of drugs	2.6 (0.6-11.3)
Dendrite/Correction fluid/Petrol	28.7 (19.4-40.2)
Spasmo proxyvon (SP)	41.7 (29.6-54.9)
Dextroproxyphene (Relipen)	47.0 (33.7-60.7)
Nitrazepam (Nitrosun N-10)	53.9 (43.7-63.8)
Codeine containing cough syrup	19.1 (12.4-28.3)
Ketamine	0.9 (0.1-5.8)
Others (Pentozoline/Penthidine/Morphine)	0.9 (0.1-5.8)
Drugs taken most frequently in the last month	
Heroin	0.9 (0.1-5.8)
Cannabis	79.1 (65.6-88.3)
Alcohol mixed with other drugs (Poly)	0.9 (0.1-5.8)
Dendrite	4.3 (1.4-12.3)
Spasmo proxyvon (SP)	10.4 (5.5-18.9)
Dextroproxyphene (Relipen)	4.3 (1.6-11.1)
Mean number of times drugs taken yesterday (excluding alcohol and cigarette)	N=112[‡] 2.8 (2.3-3.2) M=2.0 (2.0-4.0)
Frequency of taking drugs in the last 7 days (excluding alcohol and cigarette)	
Once	3.5 (1.3-8.9)
2-3 times	40.0 (27.3-54.2)
4 times or more	55.7 (41.0-69.4)

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Do not know	0.9 (0.1-7.0)
Frequency of taking drugs in the last one month (excluding alcohol and cigarette)	
Once	3.5 (0.8-14.4)
2-3 times a day	24.3 (13.5-39.8)
4-10 times a day	13.0 (8.3-19.9)
More than 10 times a day	58.3 (38.0-76.1)
Do not know	0.9 (0.1-7.0)
How do you usually take drugs*	
Always in a group	33.9 (22.0-48.3)
Always alone	13.0 (8.6-19.3)
Sometimes in a group	60.9 (47.0-73.2)
Proportion of drug users ever injected drugs	14.8 (9.3-22.8)
Gender of injecting drug users (Denominator is who ever injected drugs)	N=17
Male	100.0
Type of drugs injected ever in lifetime* (Denominator is who had ever injected drugs)	N=17
Heroin	5.9 (0.6-38.4)
Spasmo proxyvon (SP)	88.2 (63.2-97.0)
Others (Pentozoline/Penthidine/Morphine)	5.9 (0.6-38.4)
Proportion of drug users who injected drugs in the last 6 months	5.2 (2.5-10.4)
Proportion of drug users who injected drugs in the last 6 months (Denominator is who had ever injected drugs)	N=17 35.3 (15.5-61.8)
Mean number of injections taken in the last six months (Denominator is who had injected drugs in last six months)	N=5[§] 4.8 (2.5-7.1) M=0 (0-2.5)
Type of drugs injected in the last six months* (Denominator is who had injected drugs in the last six months)	N=6
Heroin	16.7 (0.6-87.0)
Spasmo proxyvon (SP)	66.7 (18.2-94.7)
Others (Pentozoline/Pethidine/Morphine)	16.7 (1.2-76.3)
Whether injected in a group in the last six months (Denominator is who had injected drugs in the last six months)	N=6
Always in a group	50.0 (5.1-94.9)
Always alone	0
Sometimes in a group	50.0 (5.1-94.9)

*Multiple responses
[‡]Three respondents said they did not know and were excluded from the analysis
[§]One respondent said did not know and was excluded from the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Injection behaviour (Table 9)

Among six IDUs who injected in the last six months no one borrowed used needles/syringes during the last injection in the last six months however two had lent their used needles/syringes to others. Both IDUs said that during the last sharing episode in the last six months they had cleaned the needles/syringes using water and cotton before use by others. Sharing of injection paraphernalia (other than needles/syringes) in the last six months was reported by two, both of whom shared the same ampoule.

Table 9: Injection behaviour of the drug users

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who borrowed used needle/syringe last time in the last six months (Denominator is who had ever injected drugs)	N=17 0
Proportion of drug users who lent used needle/ syringe last time in the last six months (Denominator is who had ever injected drugs)	N=17 11.8 (2.3-43.5)
Proportion of drug users who lent used needle/ syringe last time in the last six months (Denominator is who had injected drugs in the last six months)	N=6 33.3 (5.3-81.8)
Mean number of people who had used the same needle/syringe after lending (Denominator is who lent used needle/syringe last time in the last six months)	N=1‡ 1.0 M=1
Proportion of drug users who cleaned needle/syringe between use with others last time in the last six months (Denominator is who ever shared needle/syringe in the last six months)	N=2 100.0
Proportion of drug users who shared injection paraphernalia other than needles/syringes in the last six months (Denominator is who had ever injected drugs)	N=17 11.8 (2.3-43.5)
Proportion of drug users who shared injection paraphernalia in the last six months (Denominator is who had injected drugs in the last six months)	N=6 33.3 (5.3-81.8)
Most commonly shared injection paraphernalia in the last six months (Denominator is who had shared injection paraphernalia in the last six months) Used drug from the same ampoule	N=2 100.0

*Multiple responses

‡One respondent said s/he did not know and was excluded from the analysis

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge on sources of needles/syringes (Table 10)

More than 90% of the IDUs knew where new needles/syringes were available (Table 10). Health facility was the most commonly cited source of new needle/syringe (87.5%) followed by medical shop (43.8%) and friends (31.3%).

Table 10: Knowledge on sources of needles/syringes

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who knew where new needles/syringes were available (Denominator is who had injected drugs in life)	N=17 94.1 (61.6-99.4)
Sources of new needles/syringes* (Denominator is who knew any place where new needles/syringes could be obtained)	N=16
Medical shop	43.8 (14.3-78.4)
Health facility	87.5 (59.0-97.1)
Friends	31.3 (9.8-65.6)
Fellow drug user	12.5 (3.3-37.1)
Drug seller	0
Veterinary hospital/shop	18.8 (5.4-48.3)

*Multiple responses

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

History of abscesses (Table 11)

Abscesses were not commonly reported by IDUs (Table 11).

Table 11: History of abscesses

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who had abscesses in the last six months (Denominator is who had ever injected drugs)	N=17 11.8 (2.0-46.6)
Proportion of drug users who had abscesses in the last six months (Denominator is who injected drugs in the last six months)	N=6 16.7 (0.6-87.0)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Efforts to quit drug use (Table 12)

Close to three quarters of the drug users (70.4%) had tried to quit drugs sometime in their lives and the average number of times this attempt was made was 3.4 times. The most frequent methods were locking and isolating themselves at home (60.5%) followed by advice from friends/parents/relatives/family/teachers (58%).

Table 12: Efforts to quit drug use

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who ever tried quitting drugs	70.4 (58.0-80.5)
Mean number of attempts of quitting drugs (Denominator is who ever tried to quit drugs)	N=72[‡] 3.4 (2.6-4.3) M=2.0 (1.5-4.0)
Methods tried for quitting drugs* (Denominator is who tried quitting drugs in life) Health facility (Hospital/BHU/ORC/HISC/etc) Locking him/her self at home Advice from friends/parents/relatives/family/teachers Went to rehabilitation/drop-in-centre (DIC) Others[§]	N=81 13.6 (7.2-24.0) 60.5 (47.1-72.5) 58.0 (48.2-67.2) 11.1 (6.1-19.3) 4.9 (1.7-13.8)

*Multiple responses
[‡]Nine respondents said they did not know and were excluded from the analysis
[§]Others stated avoid bad company, going to Lhakhang (temple)
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Sexual behaviours (Tables 13and 14)

Not all drug users reported having ever experienced sex and 58.3% said they had had penetrative sex in the last one month (Table 13). Seventy one percent of the drug users had sex with spouse or regular sex partners while 32.4% of the male drug users bought sex from female sex workers in the last year. Among the female drug users approximately 15% sold sex in exchange of money/gift/etc both in the last year and in the last month. Only 1.7% of the drug users engaged in group sex in the last year; however, no one did so in the last month.

Table 13: Sexual history and type of sex partners

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who ever had sex	86.1 (73.1-93.4)
Proportion of drug users who had any type of penetrative sex in the last month	58.3 (50.0-66.1)
Proportion of drug users who had any type of penetrative sex in the last month (Denominator is who ever had sex)	N=99 67.7 (57.8-76.2)
Proportion of drug users who had sex with spouse or regular sex partner in the last year	71.3 (60.3-80.3)
Proportion of drug users who had sex with spouse or regular sex partner in the last year (Denominator is who ever had sex)	N=99 82.8 (73.8-89.2)
Proportion of drug users who had sex with spouse or regular sex partner in the last month	57.4 (49.0-65.4)

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who had sex with spouse or regular sex partner in the last month (Denominator is who ever had sex)	N=99 66.7 (56.8-75.2)
Male drug users	
Proportion of drug users who had sex with commercial* female partner in the last year	N=102 32.4 (23.9-42.1)
Proportion of drug users who had sex with commercial female partner in the last year (Denominator is who ever had sex)	N=93 35.5 (26.3-45.8)
Proportion of drug users who had sex with commercial female partner in the last month	N=102 13.7 (8.9-20.7)
Proportion of drug users who had sex with commercial female partner in the last month (Denominator is who ever had sex)	N=93 15.1 (9.8-22.4)
Female drug users	
Proportion of drug users who received any money/gift/etc from any sex partner in the last year	N=13 15.4 (1.7-65.5)
Proportion of drug users who received any money/gift/etc from any sex partner in the last year (Denominator is who ever had sex)	N=6 33.3 (1.0-96.1)
Proportion of drug users who received any money/gift/etc from any sex partner in the last month	N=13 15.4 (1.7-65.5)
Proportion of drug users who received any money/gift/etc from any sex partners in the last month (Denominator is who ever had sex)	N=6 33.3 (1.0-96.1)
Proportion of drug users who had group sex in the last year	1.7 (0.2-13.8)
Proportion of drug users who had group sex in the last year (Denominator who had sex in life)	N=99 2.0 (0.2-15.9)
Proportion of drug users who had group sex in the last month	0

*Sex in exchange of money or gifts

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Table 14 provides the mean numbers of sex acts and of different types of sex partners of male and female drug users and it shows that drug users were sexually active. Sex was reported regularly with spouse and/or regular sex partners and many drug users had multiple sex partners in the last year. In the commercial setting, males had more than one sex partner in the last year and the last month. Only two female drug users said they had sold sex and in the last month they had one commercial partner on average. Of the two drug users who had group sex in the last year, the mean number of sex partners during group sex was 4.5.

Table 14: Mean number of sex acts and sex partners

Indicators % (95% CI)	Drug users Thimphu (N=115 unless otherwise stated)
Mean number of sex acts with spouse or regular sex partner in the last month (Denominator is who had sex with spouse/regular sex partner in the last month)	N=45[§] 7.6 (5.0-10.2) M=3.0 (0.0-10.0)
Mean number of sex acts with female commercial sex partners in the last month (Denominator is who are male and had commercial sex with females in the last month)	N=13[‡] 1.3 (1.0-1.6) M=1.0 (1.0-2.0)
Mean number of sex acts with male commercial sex partners in the last month (Denominator is who are female and had commercial sex with males in the last month)	N=2 1.0 M=1.0 (1.0-1.0)
Mean number of spouse or regular sex partners in the last year (Denominator is who had sex with spouse or regular sex partners in the last year)	N=76[ϕ] 2.5 (2.1-2.8) M=2.0 (1.0-3.0)
Mean number of commercial female sex partners in the last year (Denominator is who are male and had sex with commercial females in the last year)	N=31[θ] 2.9 (1.9-3.9) M=2.0 (1.0-3.0)
Mean number of commercial female sex partners in the last month (Denominator is who are male and had sex with commercial females in the last month)	N=13[‡] 1.7 (0.9-2.5) M=1.0 (1.0-2.0)
Mean number of commercial male sex partners in the last year (Denominator is who are female and had commercial sex with males in the last year)	N=2 1.5 (0.0-7.9) M=1.5 (1.0-2.0)
Mean number of commercial male sex partners in the last month (Denominator is who are female and had commercial sex with males in the last month)	N=2 1.0* M=1.0 (1.0-1.0)
Mean number of sex partners during group sex in the last year (Denominator is who had group sex in the last year)	N= 2 4.5* M=4.5 (4.0-5.0)

[§]Twenty one respondents said they did not know and were excluded from the analysis
[‡]One respondent said s/he did not know and was excluded from the analysis
[ϕ]Six respondents said they did not know and were excluded from the analysis
[θ]Two respondents said they did not know and were excluded from the analysis
*Due to identical observations standard error was zero and 95% CI was not possible to calculate
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Condom use with different types of sex partners (Table 15)

Reported condom use in the last year during last sex was quite high (83.8%) (Table 15). The percentages of males reporting this with non-commercial and commercial female partners were similar (62.2% and 69.7%, respectively). Only two female drug users reported selling sex, one of whom said that her partner used condom in the last sex act. During group sex, one reported using a condom himself and both said their partners did not use condoms.

Table 15: Condom use with different types of sex partners

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Ever used condom during sex (Denominator is who ever had sex)	N=99 68.7 (60.2-76.1)
Used condom during last sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=68 83.8 (72.7-91.0)
Used condom during any type of penetrative sex in last month (Denominator is who had penetrative sex in the last month)	N=67* 53.7 (44.1-63.0)
Used condom during last sex with spouse or regular sex partner in the last year (Denominator is who had sex with spouse or regular sex partner in the last year)	N=82 62.2 (53.0-70.6)
Used condom during last sex with commercial female partner (Denominator is who are male and paid/gift/etc sex to female partner in the last year)	N=33 69.7 (56.1-80.5)
Used condom during last sex with male partner who paid/gift/etc (Denominator is who are female and had sex with male partner who paid/gift/etc in the last year)	N=2 50.0 (0.0-100.0)
Number of partners besides the respondent who used condom during the last group sex in the last year (Denominator is who had group sex in the last year) At least one No one	N=2 0 100.0
The respondent used condom during last group sex in the last year (Denominator is who had group sex in the last year)	N=2 50.0

*Two observations were missing

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Consistent condom use with different type of sex partners (Table 16)

In contrast to the high rates of condom use reported during last sex, consistent condom use was much lower (Table 16). Consistent condom use with spouse or regular sex partners was 22.0% in the last year and 21.2% in the last one month. Twenty seven percent of the male drug users used condom consistently with female commercial sex partners in the last year and 21.4% did so in the last month.

Table 16: Consistent condom use with different types of sex partners

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Frequency of using condom with spouse or regular sex partner in the last year (Denominator is who had sex with spouse or regular partner in the last year)	N=82
Always	22.0 (13.0-34.7)
Sometimes	47.6 (36.1-59.3)
Never	30.5 (22.0-40.5)
Frequency of using condom with spouse or regular sex partner in the last month (Denominator is who had sex with spouse or regular partner in the last month)	N=66
Always	21.2 (12.2-34.2)
Sometimes	48.5 (34.4-62.8)
Never	30.3 (19.3-44.2)
Frequency of using condom with commercial female partners in the last year (Denominator is who are male and had sex with commercial females in the last year)	N=33
Always	27.3 (14.7-45.0)
Sometimes	51.5 (34.7-68.0)
Never	21.2 (10.2-39.1)
Frequency of using condom with commercial female partners in the last month (Denominator is who are male and had sex with commercial females in the last month)	N=14
Always	21.4 (5.7-55.4)
Sometimes	57.1 (31.3-79.6)
Never	21.4 (4.8-59.7)
Frequency of using condom with male partners who paid/gift/etc in the last year (Denominator is who are female and had sex with males who paid/gift/etc in the last year)	N=2
Always	50.0 (0.0-100.0)
Sometimes	0
Never	50.0 (0.0-100.0)
Frequency of using condom with male partners who paid/gift/etc in the last month (Denominator is who are female and had sex with males who paid/gift/etc in the last month)	N=2
Always	50.0 (0.0-100.0)
Sometimes	0
Never	50.0 (0.0-100.0)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 17)

All drug users recognised a male condom and everyone knew where condoms were available. The commonly cited sources of condoms were medical shops (86.9%) followed by health facility (78.8%). Among those who had sex in the last month, 23.2% bought condoms, mostly from medical shops (93.8%). Thirty percent of the drug users said they had easy access to condoms whenever they needed one. Only 8.3% of the drug users reported breaking of condoms during sex in the last month.

Table 17: Knowledge of, ever use, access to and breaking of condoms

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who recognized male condom (Denominator is who ever had sex)	N=99 100.0
Proportion of drug users who knew where condoms are available (Denominator is who ever had sex and could identified a condom)	N=99 100.0
Name of places or persons where condoms are available (Denominator is who ever had sex and knew the sources of condoms)*	N=99
General shop	6.1 (2.2-15.3)
Medical shop	86.9 (74.6-93.7)
Health facility (hospital/BHU/ORC/HISC/etc)	78.8 (68.7-86.3)
Village health worker	8.1 (4.5-14.1)
Condom/Daechong Box	39.4 (27.0-53.4)
Bar/guest house/hotel	27.3 (18.1-38.8)
Friends	17.2 (9.8-28.3)
Proportion of drug users who bought condoms in the last month (Denominator is who had sex in the last month)	N=69 23.2 (15.0-34.1)
Sources of condoms in the last month (Denominator is who had sex in the last month & bought condom in the last month)*	N=16
Medical shop	93.8 (53.6-99.5)
Health facility (hospital/BHU/ORC/HISC/etc)	6.3 (0.5-46.4)
Condom/Daechong Box	6.3 (0.5-46.4)
Friends	12.5 (2.5-44.0)
Proportion of drug users who said they had easy access to condoms in the last month	30.4 (23.6-38.2)
Proportion of drug users who said they had easy access to condoms in the last month (Denominator is who had sex in the last month and used condom)	N=36 97.2 (78.8-99.7)
Proportion of drug users who complained of condoms breaking during sex in the last month (Denominator is who had sex and used condom in the last month)	N=36 8.3 (2.6-23.6)

*Multiple responses

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge on the modes of HIV transmission and confidential HIV (Annexe 3)

The vast majority of drug users (94.8%) had heard of HIV/AIDS. Knowledge on individual modes of transmission of HIV was good. Comprehensive knowledge of HIV was computed among the respondents who gave correct answers to five questions regarding route of transmission of HIV, i.e., people can reduce the risk of HIV by using condoms, a person cannot get HIV from mosquito bites, a person cannot get HIV by sharing a meal with someone who is HIV infected, risk of HIV can be reduced by avoiding multiple sex partners and a healthy looking person can have HIV. Only 32.2% of the drug users were found to have such comprehensive knowledge. The data are shown in annexe 3. Nearly two thirds (65.1%) of the drug users were aware of the availability of confidential HIV testing facilities in Thimphu (annexe 3). Twenty eight percent of the drug users reported ever having been tested for HIV of whom 80% tested voluntarily. Almost all had received the result and most of the tests were conducted within the last one year.

Knowledge on STIs, self-reported STIs and health care seeking behaviour (Table 18)

Questions were asked to assess knowledge about STI symptoms in males only and this was put to both male and female drug users. More than a quarter (27.3%) of the drug users did not know any symptoms of STIs. In the last year, 7.1% of the drug users said they had any one of the STI symptoms and most who had complaints sought treatment from health facilities (42.9%).

Table 18: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Knowledge on STI symptoms (Denominator is who ever had sex)*	N=99
Discharge from penis	62.6 (50.7-73.2)
Burning pain on urination	48.5 (37.2-59.9)
Genital ulcers/sores	17.2 (11.0-25.9)
Swellings in groin area	21.2 (8.4-44.1)
Anal discharge	0
Anal ulcer/sores	2.0 (0.5-7.2)
Others	0
Do not know	27.3 (19.4-36.9)
Proportion of drug users reported having urethral discharge in the last one year (Denominator is who ever had sex)	N=99 7.1 (3.7-13.2)
Proportion of drug users reported having anal discharge in the last one year (Denominator is who ever had sex)	N=99 0
Proportion of drug users reported having genital ulcer/sore in the last one year (Denominator is who ever had sex)	N=99 2.0 (0.5-7.4)
Proportion of drug users reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=99 7.1 (3.7-13.2)

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
First choice of the last STI treatment in the last year (Denominator is who ever had sex and reported STI in the last year)	N=7
Health facility (hospital/BHU/ORC/HISC/etc)	42.9 (9.1-85.0)
Treatment from drug seller	0
Treatment from private doctor	0
Treatment from traditional healer	0
Advice/treatment from friends	14.3 (1.0-74.3)
Self treatment	28.6 (4.2-78.5)
Nothing	14.3 (1.0-74.3)
Proportion of drug users who sought formal medical treatment† as the first treatment option during the last STI in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=7 42.9 (9.1-85.0)
Mean waiting days before seeking the first treatment for the last STI in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	5.8 (1.0-10.7) M=5.0 (2.0-7.0) N = 6‡
Mean expenditure (Nu) during last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	0 (Free) N=6‡

*Multiple responses

†Formal medical treatment refers to treatment from health facilities and private doctors

‡Data was missing from one respondent was missing and was excluded from the analysis

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 19)

Most of the drug users (40.4 % - 41.3%) did nothing to avoid STIs and HIV (Table 19). Always or sometimes use of condoms was mentioned by some drug users as a measure to avoid STIs and HIV.

Table 19: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=99
Do nothing	40.4 (28.1-54.0)
Wash genitalia with dettol/urine	13.1 (4.8-31.0)
Always use condoms	24.2 (16.5-34.2)
Sometimes use condoms	31.3 (21.1-43.7)
Others (avoid sex with sex worker)	1.0 (0.1-6.8)
Steps taken to avoid HIV* (Denominator is who had heard about HIV)	N=109

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Do nothing	41.3 (29.9-53.7)
Do not share needle/syringe	1.8 (0.4-8.1)
Wash genital organ by dettol/urine	9.2 (3.3-23.0)
Always use condom	22.0 (15.0-31.2)
Sometimes use condom	26.6 (17.7-38.0)
Others[§]	7.3 (4.2-12.6)
Cannot remember	1.8 (0.5-6.9)

*Multiple responses
[§]Other stated never had sex, sex with regular sex partner only
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Self perception of risk (Table 20)

When drug users were asked to assess their own risk of becoming infected with HIV, 66.1% said they were not at risk (Table 20). Among those who perceived themselves to be at risk, 17.4% thought they were at high risk; 52.2% at some risk and 30.4% felt they were at little risk.

Table 20: Self-Perception of risk

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who perceived themselves to be at risk of HIV	
Yes	20.9 (12.3-33.1)
No	66.1 (54.3-76.1)
Don't know	13.0 (6.5-24.6)
Level of HIV risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=24
High risk	16.7 (6.6-36.3)
Some risk	50.0 (36.6-63.4)
Little risk	29.2 (15.4-48.1)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 21)

Among those who perceived themselves to be at high or some risk, for most the main reasons were never or irregular use of condoms (50% and 43.8%, respectively). Among those who perceived themselves to be at no risk, most thought that this was because they had sex with healthy/clean partners (47.4%) or because they always used condoms (26.3%).

Table 21: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Reasons for assessing themselves to be at high or some risk of HIV (Denominator is who thought themselves to be at high or some risk)*	N=16
Frequently share needles/syringes	0
Occasionally share needles/syringes	0
Sex with multiple sex partners	0
Never use condoms	50.0 (32.1-67.9)
Irregular use of condoms	43.8 (23.8-66.0)
Others (Sharing blade)	6.3 (0.5-44.7)
Reasons for assessing themselves to be at little risk of HIV (Denominator is who perceived themselves to be at little risk)*	N=7
Never share needles/syringes	0
Occasionally share needles/syringes	0
Always use condoms	14.3 (1.3-68.5)
Irregular use of condoms	71.4 (25.4-94.8)
Have sex with clean/healthy partners	28.6 (5.2-74.6)
Others (Sex with wife/regular sex partner only)	28.6 (5.2-74.6)
Do not know	14.3 (0.7-78.9)
Reasons for assessing themselves to be at no risk of HIV (Denominator is who perceived themselves to be at no risk)*	N=76
Never share needles/syringes	5.3 (2.1-12.8)
Sometimes share needles/syringes	0
Always use condoms	26.3 (16.7-38.9)
Irregular use of condoms	17.1 (10.1-27.6)
Have sex with clean/healthy partners	47.4 (34.0-61.1)
Sex with wife/regular sex partner only	11.8 (6.9-19.5)
Never had sex	13.2 (7.2-22.8)
Don't know	2.6 (0.7-9.4)

*Multiple responses

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 22)

Nearly one-fourth of the drug users (23.5%) had participated in any HIV/AIDS/STI intervention Programme in the last year (Table 22). Of these most of the intervention activities were associated with workshop/meeting at the health facilities (63%) followed by HIV awareness Programmes (18.5%). The average time they last participated in any intervention Programme was 6.4 months ago. None had participated in the last month. Most of the drug users said that they learnt about HIV/AIDS/STI/safe sex and correct use of condom through these intervention Programmes (85.2%). However, only 29.6% reported that these Programmes had helped in changing risk behaviours.

Table 22: Exposure to interventions

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who participated in any HIV/AIDS/STI intervention Programme in the last year	23.5 (12.7-39.4)
Type of interventions participated in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)*	N=27
Multi sectoral task force (MSTF)‡	11.1 (3.8-28.3)
Workshop/meeting at the health facilities	63.0 (44.6-78.2)
Special meeting on HIV awareness	18.5 (4.7-51.1)
Others§	7.4 (2.5-20.2)
Average time since last participated in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	6.4 (5.0-7.8) M=6.0 (5.0-7.0) N=27
Proportion of drug users who participated in any HIV/AIDS/STI intervention Programme in the last month	0
Proportion of drug users who participated in any HIV/AIDS/STI intervention Programme in the last six months	14.8 (5.9-32.2)
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	1.3 (1.1-1.6) M=1.0 (1.0-2.0) N=27
Benefits from the HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)*	N=27
Helped in changing behaviour	29.6 (11.1-58.7)
Gave useful information but did not affect behaviour	3.7 (0.4-28.0)
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	85.2 (60.0-95.7)

§Others stated youth activities (youth and scout), Tarayana (an NGO that helps poor and needy people)
‡This is coordinated by the Dzongkhag administrations and members from all sectors including health, forest, education, agriculture, armed forces, etc.
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Mobility and risk behaviours (Table 23, annexe 4)

Drug users were fairly mobile. In the last year 59.1% of the drug users had taken any drugs while travelling to another town and most had travelled to Phuentsholing. Among the 17 IDUs, 47.1% reported injecting drugs while visiting another town which in most cases was also Phuentsholing. A substantial proportion of drug users reported travelling abroad in the last year (39.1%), mostly to India. Among the male drug users who travelled abroad, 39% bought sex from females while abroad and 93.8% used condoms. None of the four female drug users who travelled abroad last year sold sex while abroad.

Five drug users reported injecting drugs while travelling abroad and all of them were males. Of these five male drug users one reported sharing used needles/syringes during their last injection while abroad.

Table 23: Mobility of drug users

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion reported ever using any illicit drugs (excluding alcohol and cigarette) in another town in the last year	59.1 (52.4-65.5)
Name of places visited (Denominator is who had visited another town in the last year)	N=68 *Town/Village (Number):* Tsemasham (1) Dawakha (1) Phuentsholing (26) Chunzom (1) Paro (8) Chimakothi (1) Khuruthang (2) Punakha town (4) Wangdue town/Bazar (4) Ura (1) Phangyul (1) Drukgyul (1) Bumthang town (2) Trashigang town (2) Dechencholing (1) Gedu (1) Chummey (2) Lobesa (1) S/Jongkhar town (1) Samtse town (1) Gelephu (2) Kunglung (1) Nemjoo (1) Mongar town (1) Dagana town (1) *District (Number):* Thimphu (2) Paro (12) Punakha (6) Wangdue (5) Bumthang (5) Mongar (1) Trashigang (3) Samdrup Jongkhar(1) Sarpang (2)

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
	Dagana (1) Chukha (29) Samtse (1)
Proportion reported ever injecting drugs in another town in the last year (Denominator is who ever injected drugs)	N=17 47.1 (25.0-70.3)
If yes, where?	N=8 *Town/Village (Number):* Phuentsholing (5) Hongtso (1) Bumthang town (1) S/Jongkhar town (1) *District (Number):* Thimphu (1) Bumthang (1) Bumthang (1) Chhukha (5)
Proportion of drug users reported travelling to another country in the last year	39.1 (31.2-47.7)
Proportion of male drug users who had commercial sex (paid kind/gift/etc for sex) while abroad in the last year (Denominator is who are males and had visited another country in the last year)	N=41 39.0 (23.7-56.8)
Proportion of female drug users who had commercial sex (received kind/gift/etc for sex) while abroad in the last year (Denominator is who are females and had visited another country in the last year)	N=4 0
Proportion of male drug users who used condom in the last commercial sex while abroad in the last year (Denominator is who are males and had commercial sex while visiting another country in the last year)	N=16 93.8 (58.1-99.4)
Proportion of drug users who injected drugs while abroad in the last year (Denominator is who had visited another country in the last year)	N=45 11.1 (3.0-33.5)
Gender of drug users who injected drugs while abroad in the last year (Denominator is who had visited another country in the last year and injected drugs) Male	N=5 100.0
Proportion of male drug users who shared needle/syringe while abroad last time in the last year (Denominator is who had visited another country and had injected in the last year)	N=5 20.0 (1.0-86.3)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Violence against drug users (Table 24)

Close to a quarter of the drug users reported ever being beaten or physically tortured due to drug use in the last year and the mean number of times this happened was 3.2 (Table 24). Most of the violence was perpetrated by friends (55.6%) followed by police (51.9%) and family members/relatives (48.1%). Twenty seven percent of the drug users reported losing their jobs due to drug use.

Table 24: Violence against drug users

Indicators % (95 % CI)	Drug users Thimphu (N= 115 unless otherwise stated)
Proportion of drug users who were ever beaten or physically tortured due to drug use (excluding alcohol and cigarette) in the last year	23.5 (17.2-31.3)
Mean number of times beaten or physically tortured due to drug use (excluding alcohol and cigarette) in the last year (Denominator is who had ever been beaten or physically tortured due to drug use in the last year)	N=21‡ 3.2 (1.8-4.7) M=2.0 (1.0-4.0)
Perpetrators of violence* (Denominator is who ever had been beaten or physically tortured due to addiction in the last year)	N=27
Police	51.9 (31.4-71.7)
Unknown people	7.4 (1.9-24.9)
Family member/relatives	48.1 (28.3-68.5)
Friends	55.6 (31.2-77.5)
Teachers	14.8 (4.9-36.9)
Proportion of drug users who were ever lost their jobs due to drug use (except alcohol and cigarette)	27.0 (17.4-39.3)
Reported consequences of taking drugs* (except alcohol and cigarette) (Denominator is who had ever lost their jobs due to drug use)	N=31
Fired	16.1 (4.9-41.7)
Suspended	54.8 (29.9-77.6)
Terminated	41.9 (22.7-63.9)
Arrested	45.2 (23.1-69.3)

* Multiple responses

‡Six cases mentioned do not know and were excluded from the analysis

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

3. 2 Bar Girls

Socio-demographic characteristics (Table 25, annexe 1, 2)

The socio-demographic characteristics of the bar girls in Thimphu and in Phuentsholing are shown in Table 25. Most of the bar girls in Thimphu and in Phuentsholing were 15-24 years of age (84.4% and 72%); none were below 15 years of age. A substantial proportion of bar girls in both cities never attended school (37.7% and 48%, respectively). In Thimphu most of the bar girls interviewed were singers while in Phuentsholing they were waitresses. On an average, in the last week, the bar girls worked in the bar for 5.9 and 6.8 days in Thimphu in Phuentsholing, respectively. The monthly average income was significantly higher in Thimphu compared to Phuentsholing ($p<0.05$) and in the latter city, more than three quarters said that they had received money or presents from sex partners. Most of the bar girls had been staying in either city for 10 years or less. The towns/districts where they lived before moving to their present location are listed in annexe 1. The ethnic groups that they belong to are shown in annexe 2. In Thimphu almost half were never married; in contrast in Phuentsholing 56% were currently married. Among those who were currently married almost all lived with their spouse in both cities but despite that the majority had other regular sex partners. Among those who were not currently married, 53.7% and 18.2% had regular sex partners in Thimphu in Phuentsholing, respectively. The average age at first sex was similar in both cities.

Table 25: Socio-demographic characteristics

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Age (in years)		
<15	0	0
15-24	84.4 (68.4-93.1)	72.0 (48.4-87.6)
25-49	15.6 (6.9-31.6)	28.0 (12.4-51.6)
>49	0	0
Mean age (in years)	20.2 (19.1-21.3) M=20.0 (18.0-23.0)	23.2 (20.0-26.5) M=22.0 (19.0-25.0)
Years of schooling		
Never attended school	37.7 (26.2-50.7)	48.0 (28.5-68.1)
1-5	15.6 (10.4-22.7)	24.0 (9.6-48.5)
6-10	44.2 (33.1-55.9)	28.0 (11.7-53.4)
11-19	2.6 (0.6-10.9)	0
Mean years of schooling	4.4 (3.4-5.5) M=5.0 (0.0-8.0)	3.1 (1.5-4.7) M=1.0 (0.0-7.0)
Other education (Denominator is who had no schooling)	N=29	N=12
Non-formal education	41.4 (21.0-65.3)	8.3 (0.9-47.4)
Monastic Institution	0	8.3 (0.7-53.2)
None	58.6 (34.7-79.0)	83.4 (47.3-96.5)
Main job in the bar		
Singer	89.6 (74.0-96.3)	0

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Waitress Bar tender Helper	3.9 (1.1-12.5) 3.9 (1.2-12.3) 2.6 (0.5-11.4)	84.0 (62.2-94.4) 12.0 (3.6-33.1) 4.0 (0.4-28.6)
Mean number of work days in the bar in the last week	5.9 (5.8-6.1) M=6.0 (6.0-6.0)	6.8 (6.6-7.0) M=7.0 (7.0-7.0)
Mean income in the last month (Nu)	N=61[Φ] 4992.9 (3715.6-6270.2) M=4000.0 (3000.0-6000.0)	N=16[‡] 1375.0 (1235.3-1514.7) M=1500.0 (1000.0-1500.0)
Sources of income in the last month* From family Working as singer Working as a waitresses Working as a bar tender Money/gifts/tips/etc from sex partners Others[§]	N=61[Φ] 3.3 (0.7-13.9) 88.5 (72.0-95.9) 4.9 (1.6-14.1) 3.3 (0.7-13.5) 34.4 (25.1-45.2) 4.9 (1.6-14.5)	N=16[‡] 0 0 88.2 (57.9-97.6) 11.8 (2.4-42.1) 76.5 (38.6-94.4) 0
Duration of stay in this Town Whole life ≤10 years >10 years	 7.8 (2.8-19.7) 90.9 (79.2-96.3) 1.3 (0.1-12.6)	 16.0 (5.6-37.8) 68.0 (46.8-83.7) 16.0 (4.8-42.0)
Marital status Currently married Never married Formerly married (includes separated, widow and divorced)	 29.9 (17.7-45.7) 49.4 (36.8-62.0) 20.8 (11.1-35.6)	 56.0 (32.9-76.8) 44.0 (23.2-67.1) 0
Proportion of bar girls currently living with spouse (Denominator is who were currently married)	N=23 95.7 (67.3-99.6)	N=14 100.0
Proportion of bar girls who had any regular sex partners	58.4 (39.3-75.4)	64.0 (42.8-80.9)
Proportion of married bar girls who had regular sex partners other than spouse (Denominator is who were currently married)	N=23 69.6 (52.7-82.4)	N=14 100.0
Proportion of unmarried bar girls who had regular sex partners (Denominator is who were never or formerly married)	N=54 53.7 (31.1-74.9)	N=11 18.2 (4.0-54.5)
Proportion of bar girls who had living children	23.4 (15.8-33.2)	40.0 (19.1-65.2)
Mean number of living children (Denominator is who had children)	N=18 1.4 (1.1-1.7) M=1.0 (1.0-2.0)	N=10 2.4 (1.2-3.6) M=2.0 (2.0-2.0)
Mean age (in years) of the youngest child (Denominator is who had children)	2.6 (1.7-3.4) M=2.0 (1.0-4.0) N=18	7.5 (4.4-10.6) M=6.0 (4.0-10.0) N=10
Mean age at first sex (in years) (Denominator is who ever had sex and could recall)	N=61 17.2 (16.4-18.0) M=17.0 (16.0-18.0)	N=17 17.9 (17.2-18.7) M=17.0 (16.0-20.0)

*Multiple responses
[ϕ]Data missing
[‡]Data missing and in addition to that one respondent mentioned did not know and was excluded in the analysis
[§]Others stated business, bar helper
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Drug taking history (Table 26)

Only seven bar girls said they had taken any drugs other than alcohol and cigarettes in the last year (Table 26). In both cities no one had injected drugs.

Table 26: Drug taking history

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls took any drugs other than alcohol and cigarettes in the last year	3.9 (1.2-11.6)	16.0 (5.3-39.1)
Route used for taking drugs in the last year (Denominator is who took illicit drugs in the last year)*	N=3	N=4
Oral	66.7 (0.3-99.9)	100.0
Inhaling/Sniffing	66.7 (0.3-99.9)	25.0 (0.5-95.9)
Injection	0	0

*Multiple responses
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

History of working as a bar girl (Table 27)

The mean duration of working as a bar girl was significantly lower in Thimphu than in Phuentsholing ($p<0.05$) and consequently the proportion working in the same profession for less than one year was much higher in Thimphu. The proportions of bar girls who worked in other bars in the same city in the last one year were 20.8% and 16% in Thimphu and Phuentsholing respectively and only three said they had worked in other bars in a different city in the last year.

Table 27: History of working as a bar girl

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Mean years of working as a bar girl	0.7 (0.4-0.9) M=0.5 (0.2-1.0)	2.3 (1.5-3.2) M=2.0 (0.5-4.0) N=24*
Proportion of bar girls less than 1 year in this profession	72.7 (57.5-84.0)	28.0 (13.8-48.6)

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Mean duration of stay in this bar (in years)	0.5 (0.3-0.7) M=0.3 (0.2-0.7)	1.6 (0.9-2.3) M=1.0 (0.2-2.0)
Proportion of bar girls staying less than 1 year in this bar in this city	81.8 (69.4-89.9)	40.0 (22.4-60.6)
Proportion of bar girls worked in other bars in this city in the last year	20.8 (11.8-34.0)	16.0 (5.3-39.1)
Proportion of bar girls worked in other bars in other cities in the last year	1.3 (0.1-10.6)	8.0 (1.7-29.9)

*One respondent said she did not know and was excluded in the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Sexual behaviours (Table 28)

Not all the bar girls had experienced sex - 79.2% in Thimphu and 68% in Phuentsholing said they had ever had sex. In both cities 60% of the bar girls reported having any penetrative sex in the last month. One third in Thimphu and just over half in Phuentsholing sold sex in exchange of money/gift/etc (referred to as commercial sex) in the last one month. Regular commercial partners were more commonly reported than new commercial partners in both cities; in Phuentsholing none of the bar girls had new commercial sex partners in the last one month. Almost half of the bar girls in Thimphu had non-commercial sex partners in the last month. Anal sex was reported by only one girl in Thimphu which was with a new commercial sex partner. No one reported group sex in the last month. It is noteworthy that 11 of 25 bar girls in Phuentsholing said that they lived in cities in India before coming to this town. Further analysis of the data showed that of these 11 Indian bar girls 7 sold sex in exchange or money/gift/etc in the last month.

Table 28: Type of sex partners

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls ever had sex	79.2 (63.4-89.4)	68.0 (45.6-84.3)
Proportion of bar girls who had any penetrative sex in the last month	59.7 (40.5-76.4)	60.0 (38.6-78.1)
Proportion of bar girls who had any penetrative sex in the last month (Denominator is who ever had sex)	N=61 75.4 (59.5-86.5)	N=17 88.2 (57.9-97.6)
Proportion of bar girls who received any money/gift/etc from any sex partners in the last month	32.5 (21.5-45.8)	52.0 (27.9-75.2)
Proportion of bar girls who received any money/gift/etc from any sex partner in the	N=61 41.0 (28.2-55.1)	N=17 76.5 (38.6-94.4)

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
last month (Denominator is who ever had sex)		
Proportion of bar girls who had new commercial sex partners in the last month	10.4 (4.8-21.0)	0
Proportion of bar girls who had new commercial sex partners in the last month (Denominator is who ever had sex)	N=61 13.1 (5.8-27.0)	N=17 0
Proportion of bar girls who had vaginal sex with new commercial sex partners in the last month (Denominator is who ever had sex and had new commercial sex partners in the last month)	N=8 100.0	N=0 -
Proportion of bar girls who had anal sex with new commercial sex partners in the last month (Denominator is who ever had sex and had new commercial sex partners in the last month)	N=8 12.5 (0.6-76.3)	N=0 -
Proportion of bar girls who had commercial regular sex partners in the last month	23.4 (14.9-34.7)	52.0 (27.9-75.2)
Proportion of bar girls who had commercial regular sex partners in the last month (Denominator is who ever had sex)	N=61 29.5 (19.3-42.3)	N=17 76.5 (38.6-94.4)
Proportion of bar girls who had vaginal sex with commercial regular sex partners in the last month (Denominator is who ever had sex and had commercial regular sex partners in the last month)	N=18 100.0	N=13 100.0
Proportion of bar girls who had anal sex with commercial regular sex partners in the last month (Denominator is who ever had sex and had commercial regular sex partners in the last month)	N=18 0	N=13 0
Proportion of bar girls who had commercial new or regular sex partners in the last month	26.0 (17.3-37.1)	52.0 (27.9-75.2)
Proportion of bar girls who had commercial new or regular sex partners in the last month (Denominator is who ever had sex)	N=61 32.8 (22.3-45.4)	N=17 76.5 (38.6-94.4)
Proportion of bar girls who had non-paying sex partners in the last month	39.0 (23.7-56.7)	8.0 (1.9-28.4)
Proportion of bar girls who had non-paying sex partners in the last month (Denominator is who ever had sex)	N=61 49.2 (33.3-65.3)	N=17 11.8 (2.4-42.1)
Proportion of bar girls who had anal/vaginal sex with non-paying sex	N=30 100.0	N=2 100.0

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
partners in the last month (Denominator is who ever had sex and had non-paying sex partners in the last month)		
Proportion of bar girls who had group sex in the last month	0	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

In the last one month, a bar girl in Thimphu had more than one sex partner (any type) on an average while in Phuentsholing, the mean number was one (Table 29).

Table 29: Mean number of sex partners

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Mean number of new sex partners in the last month (Denominator is who had new sex partners in the last month)	N=8 1.9 (1.3-2.5) M=2.0 (1.0-2.5)	N=0 -
Mean number of new sex partners with whom they had vaginal sex in the last month (Denominator is who had vaginal sex with new sex partners in the last month)	N=8 1.9 (1.3-2.5) M=2.0 (1.0-2.5)	N=0 -
Mean number of new sex partners with whom they had anal sex in the last month (Denominator is who had anal sex with new sex partners in the last month)	N=1 2.0 M=0	N=0 - -
Mean number of regular sex partners in the last month (Denominator is who had regular sex partners in the last month)	N=18 1.6 (1.1-2.0) M=1.0 (1.0-2.0)	N=13 1.0 M=1.0 (1.0-1.0)
Mean number of regular sex partners with whom they had vaginal sex in the last month (Denominator is who had vaginal sex with regular sex partners in the last month)	N=18 1.6 (1.1-2.0) M=1.0 (1.0-2.0)	N=13 1.0 M=1.0 (1.0-1.0)
Mean number of sex partners (new or regular) in the last month (Denominator is who had new or regular sex partners in the last month)	N=20 2.2 (1.2-3.1) M=1.5 (1.0-2.5)	N=13 1.0 M=1.0 (1.0-1.0)
Mean number of non-paying sex partners in the last month (Denominator is who reported non paying sex partners in the last month)	N=30 1.2 (1.0-1.3) M=1.0 (1.0-1.0)	N=2 1.0 M=1.0 (1.0-1.0)

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Total (mean) number of sex partners in the last month (new or regular or non-paying sex partners) (Denominator is who had new or regular or non-paying sex partners in the last month)	N=46 1.7 (0.2-1.3) M=1.0 (1.0-2.0)	N=15 1.0 M=1.0 (1.0-1.0)

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Condom use with different types of sex partners (Table 30)

Approximately half of the bar girls in Thimphu and two thirds in Phuentsholing used condoms ever in their lifetime and in the last month. In Thimphu, among the eight girls who had new commercial sex partners in the last month, half said they had not asked any of these sex partners to use condoms. With regular commercial sex partners in the last month, 44.4% and 38.5% in Thimphu and Phuentsholing, respectively, asked none to use condoms. The one bar girl who reported anal sex with a commercial sex partner, said a condom had not been used during anal sex in the last month. Among the girls who had sex with non-paying sex partners in the last month, both in Phuentsholing and two third in Thimphu had used condoms in the last month. A similar pattern was observed with consistent condom use.

Table 30: Condom use with different types of sex partners

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Ever used condom during any sexual intercourse (Denominator is who ever had sex)	N=61 52.5 (41.6-63.1)	N=17 64.7 (42.1-82.2)
Used condom last time in any type of sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=32 87.5 (69.2-95.6)	N=11 72.7 (35.4-92.8)
Used condom during any penetrative sex in the last month (Denominator is who had any penetrative sex in the last month)	N=46 52.2 (40.1-64.0)	N=15 66.7 (40.1-85.7)
Proportion requested new commercial sex partners to use condom in the last month (Denominator is who had new sex partners in the last month) Approached all Approached some Approached none	N=8 37.5 (7.9-80.8) 12.5 (0.6-76.3) 50.0 (12.0-88.0)	N=0 - - -
Proportion requested regular commercial sex partners to use condom in the last	N=18	N=13

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
month (Denominator is who had regular sex partners in the last month)		
Approached all	44.4 (15.5-77.7)	46.2 (17.2-78.0)
Approached some	11.1 (2.0-43.1)	15.4 (3.4-48.8)
Approached none	44.4 (17.1-75.7)	38.5 (17.1-65.4)
Condom use in the last vaginal sex with a new commercial sex partner in the last month (Denominator is had new sex partners in the last month and had vaginal sex)	N=8 37.5 (7.9-80.8)	N=0 -
Condom use in the last vaginal sex with a regular commercial sex partner in the last month (Denominator is who had regular sex partners in the last month and had vaginal sex)	N=18 50.0 (20.6-79.4)	N=13 53.8 (20.5-84.1)
Condom use in the last vaginal sex with a new/regular commercial sex partner in the last month (Denominator is who had new/regular sex partners in the last month and had vaginal sex)	N=20 50.0 (22.9-77.1)	N=13 53.8 (20.5-84.1)
Condom use in the last anal sex with a new commercial sex partner in the last month (Denominator is who had new sex partners and had anal sex in the last month)	N=1 0	N=0 -
Condom use in the last vaginal or anal sex with a non-paying sex partner in the last month (Denominator is who had non-paying sex partners in the last month)	N=30 63.3 (47.6-76.6)	N=2 100.0
Frequency of condom use in vaginal or anal sex with new sex partners in the last month (Denominator is who reported new sex partners in the last month)	N=18	N=0
Always	37.5 (7.9-80.8)	-
Sometimes	12.5 (0.6-76.3)	-
Never	50.0 (12.0-88.0)	-
Frequency of condom use in vaginal or anal sex with regular sex partners in the last month (Denominator is who reported regular sex partners in the last month)	N=18	N=13
Always	44.4 (15.5-77.7)	46.2 (17.2-78.0)
Sometimes	16.7 (4.4-46.6)	15.4 (3.4-48.8)
Never	38.9 (15.3-69.1)	38.5 (17.1-65.4)
Always used condom in vaginal or anal sex with new/regular sex partners in the last month (Denominator is who reported new/regular sex partners in the last month)	N=20 45.0 (19.3-73.7)	N=13 46.2 (17.2-78.0)
Frequency of condom use in vaginal or		

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
anal sex with non-paying sex partners in the last month (Denominator is who reported non-paying sex partners in the last month)	N=30	N=2
Always	43.3 (23.6-65.4)	50.0 (0.0-100.0)
Sometimes	23.3 (10.8-43.5)	50.0 (0.0-100.0)
Never	33.3 (20.5-49.2)	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 31)

A few bar girls in Thimphu did not recognise a male condom. Approximately 6% of the bar girls in the two cities were able to show a male condom during the interview. However, most girls knew where condoms were available and medical shops, health facilities and Daechong boxes were the three most common sources named. Easy access to condoms was reported by 28.6% and 36% of the bar girls in Thimphu and in Phuentsholing respectively but only three bar girls, all in Phuentsholing, said they had bought condoms last month. Among those who had sex in the last month, no one in either city complained of condoms breaking during sex.

Table 31: Knowledge of ever use, access to and breaking of condoms

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who recognized a male condom (Denominator is who ever had sex)	N=61 98.4 (86.3-99.8)	N=17 100.0
Proportion of bar girls who were able to show a condom during the interview (Denominator is who ever had sex and recognised a condom)	N=60 6.7 (2.6-16.0)	N=17 5.9 (0.6-41.3)
Proportion of bar girls who knew where condoms are available (Denominator is who ever had sex and identified a condom)	N=60 86.7 (65.7-95.7)	N=17 64.7 (39.1-84.0)
Name of places or persons where condoms are available (Denominator is who knew the sources of condoms)*	N=52	N=11
General shop	17.3 (8.9-31.0)	9.1 (0.8-55.5)
Medical shop	61.5 (43.2-77.1)	63.6 (26.7-89.4)
Health facility (hospital/BHU/ORC/HISC/etc)	61.5 (46.0-75.0)	72.7 (27.2-95.0)
Village health worker	3.8 (0.4-26.9)	0
Condom/Daechong Box	50.0 (31.8-68.2)	45.5 (15.0-79.7)
Bar/guest house/hotel	1.9 (0.2-16.7)	9.1 (0.8-55.5)

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who bought condoms in the last month (Denominator is who had sex in the last month and used condom)	N=24 0	N=10 30.0 (7.6-69.0)
Sources of condoms in the last month (Denominator is who had sex in the last month and bought condom in the last month)*	N=0	N=3
General shop	-	0
Medical shop	-	66.7 (0.3-99.9)
Health facility (hospital/BHU/ORC/HISC/etc	-	66.7 (0.3-99.9)
Village health worker	-	0
Condom/Daechong Box	-	0
Bar/guest house/hotel	-	0
Friends	-	0
Proportion of bar girls who had easy access to condoms	28.6 (20.5-38.3)	36.0 (22.5-52.2)
Proportion of bar girls who had easy access to condoms (Denominator is who had sex in the last month and used condom)	N=24	N=10
Yes	91.7 (71.5-98.0)	90 (42.2-99.1)
No	4.2 (0.4-30.5)	10.0 (0.9-57.8)
Do not know	4.2 (0.5-28.2)	0

*Multiple responses

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Sharing of earned money (Table 32)

Thirty one percent of the bar girls in Thimphu and 64.7% in Phuentsholing said they had given their money to someone else in the last month; mainly to family members or relatives in both cities.

Table 32: Money earned from new/regular sex partners

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who gave their total earned money to someone else in the last month (Denominator is who ever had sex)	N=61 31.1 (20.6-44.1)	N=17 64.7 (34.1-86.6)
Mean amount of money given to anyone in the last month (Nu) (Denominator is who gave their earned money to anyone in the last month)	N=19 2021.1 (1294.2-2747.9) M=2000.0 (1000.0-2500.0)	N=11 690.9 (424.7-957.2) M=500.0 (500.0-1000.0)
Person to whom the money was given* (Denominator is who gave money in the	N=19	N=11

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
last month Family/relatives Others (friends)	 94.7 (60.4-99.5) 5.3 (0.5-39.6)	 100.0
Mean amount of money earned from last new sex partners in the last month (Nu) (Denominator is who reported new sex partners in the last month)	N=7† 2300.0 (1216.1-3383.9) M=2000.0 (1500.0-3000.0)	N=0 -

*Multiple responses

†One respondent said she could not remember and was excluded from the analysis

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Occupational profile of sex partners (Table 33)

Seventy one percent of the bar girls in Thimphu and 94.1% in Phuentsholing knew the occupation of their sex partners. In both cities most of the sex partners were businessmen.

Table 33: Occupational profile of sex partners

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who knew the occupation of their sex partners (Denominator is who ever had sex)	N=61 70.5 (53.9-83.0)	N=17 94.1 (62.3-99.4)
Occupation of sex partners reported by the bar girls (Denominator is who ever had sex and knew sex partner's occupation)	N=43	N=16
Student	16.3 (7.2-32.8)	6.3 (0.6-42.9)
Police	11.6 (3.7-31.3)	6.3 (0.8-35.0)
Civil servant	14.0 (5.5-31.3)	12.5 (2.9-40.4)
Businessman	39.5 (26.3-54.5)	25.0 (7.9-56.4)
Unemployed	7.0 (2.4-18.5)	18.8 (5.7-47.0)
Truckers	4.7 (0.5-32.6)	0
Taxi drivers	7.0 (1.6-26.3)	12.5 (2.3-46.7)
Construction worker	0	12.5 (2.9-40.4)
Others (cook)	0	6.3 (0.7-39.0)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge regarding injecting drug use by the sex partners (Table 34)
Among the bar girls who ever had new or regular commercial sex partners, 10% in Thimphu said they knew that their sex partner injected drugs while none in Phuentsholing said this. Regarding non-commercial sex partners, 6.7% of the bar girls in Thimphu and none in Phuentsholing said they knew that their partner injected drugs.

Table 34: Reported injecting drugs among sex partners

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls knew whether new or regular sex partners injected drugs (Denominator is who had new or regular sex partners in life)	N=20	N=13
Yes	10.0 (1.8-40.4)	0
No	45.0 (24.7-67.2)	100.0
Do not know	45.0 (28.2-63.0)	0
Proportion of bar girls knew whether their non paying sex partners injected drugs (Denominator is who had non paying sex partners in the last month)	N=30 6.7 (1.6-23.9)	N=2 0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge on the modes of HIV transmission and confidential HIV testing (Annexe 3)
Most of the bar girls had heard about HIV/AIDS but only a few had comprehensive knowledge. Comprehensive knowledge on HIV/AIDS was computed as described earlier (section 3.1).Using this definition, only 14.3% of the bar girls in Thimphu and 32% in Phuentsholing had comprehensive knowledge on HIV/AIDS. Almost half of the bar girls in Thimphu and only one in Phuentsholing knew where to go for a confidential HIV testing. In Thimphu, among those who knew where HIV can be tested confidentially, 42.1% had been tested for HIV, most within the last year. A little more than half tested said that the test was voluntary and most had received the results (annexe 3).

Violence against bar girls (Table 35)
Approximately 16% of the bar girls reported having been beaten/threatened by someone in the last year in both cities and in Thimphu 7.8% said they were raped. In Thimphu, managers were most commonly responsible for beating or threatening the bar girls. Among the six girls raped in Thimphu, new sex partners were responsible in two cases. Seven girls were arrested last year and in one case, she was arrested while rape was being attempted on her.

Table 35: Violence against bar girls

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who reported being beaten/threatened in the last year	15.6 (7.3-30.2)	16.0 (5.6-37.8)
Proportion of bar girls who reported being raped in the last year	7.8 (2.1-25.4)	0
Proportion of bar girls reported being beaten or raped in the last year	20.8 (8.9-41.2)	16.0 (5.6-37.8)
Violence perpetrated by (Denominator is who reported being beaten /threatened in the last year)*	N=12	N=4
Police	0	0
New sex partner	8.3 (0.9-48.9)	0
Regular sex partner	8.3 (0.5-61.9)	25.0 (0.5-95.9)
Manager	50.0 (22.3-77.7)	25.0 (0.5-95.9)
Brother	8.3 (0.6-55.8)	0
Husband	8.3 (0.6-55.8)	0
Friend	0	25.0 (0.5-95.9)
Customer	0	25.0 (0.5-95.9)
Others[§]	16.7 (2.5-60.8)	0
Cannot remember	8.3 (0.5-61.9)	0
Rape perpetrated by (Denominator is who reported being raped in the last year)*	N=6	N=0
Law enforcing agency	0	-
New sex partner	33.3 (1.2-95.4)	-
Regular sex partners	0	-
Manager	16.7 (0.4-91.2)	-
Others	16.7 (0.1-97.7)	-
Cannot remember	33.3 (7.2-76.3)	-
Proportion of bar girls who reported being arrested in the last year	9.1 (4.2-18.4)	0
Causes of arrest in the last year (Denominator is who were arrested in the last year)	N=7	N=0
Aggressive behaviours/fights	71.4 (25.4-94.8)	-
Taking drugs	14.3 (1.3-68.5)	-
While there was an attempt to rape her[θ]	14.3 (0.7-78.9)	-
		-
		-

*Multiple responses
[§]Others stated contractor, driver
[θ]The bar girl was arrested along with the person who attempted to rape her
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge regarding STIs, self-reported STIs and health care seeking behaviour (Table 36)

A large proportion of the bar girls in both cities did not know the symptoms of STIs. Among those who ever had sex, 39.3% and 29.4% complained of at least one STI symptom in the last year in Thimphu and Phuentsholing respectively. Of these, 50% in Thimphu sought formal medical treatment while in Phuentsholing, most did nothing and others sought advice from friends or treated themselves.

Table 36: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Knowledge on STI symptoms (Denominator is who ever had sex)*	N=61	N=17
Vaginal discharge	14.8 (7.0-28.4)	11.8 (2.4-42.1)
Smelly discharge	14.8 (8.0-25.7)	0
Genital ulcers/sores	27.9 (14.8-46.2)	11.8 (2.7-39.2)
Lower abdominal pain	8.2 (2.5-23.7)	17.6 (4.7-48.2)
Others[§]	1.6 (0.2-14.2)	0
Do not know	60.7 (43.4-75.6)	76.5 (50.9-91.1)
Proportion of bar girls who reported having painful or smelly discharge in the last one year (Denominator is who ever had sex)	N=61 13.1 (7.8-21.3)	N=17 17.6 (5.2-45.5)
Proportion of bar girls who reported having pain in lower abdomen that was not associated with menses or diarrhoea in the last year (Denominator is who ever had sex)	N=61 26.2 (14.5-42.7)	N=17 23.5 (7.2-55.0)
Proportion of bar girls who reported having genital warts, ulcer/sore in the last year (Denominator is who ever had sex)	N=61 11.5 (3.7-30.3)	N=17 5.9 (0.6-41.3)
Proportion of bar girls who reported at least one STI symptom in the last year (Denominator is who ever had sex)	N=61 39.3 (24.4-56.6)	N=17 29.4 (10.8-59.0)
Source of treatment for the last STI episode in the last year (Denominator is who ever had sex and reported STI in the last year)	N=24	N=5
Health facility (hospital/BHU/ORC/HISC/etc)	50.0 (21.1-78.9)	0
Treatment from traditional healer	12.5 (2.7-42.0)	0
Advice/treatment from friends	8.3 (1.8-30.6)	20.0 (0.3-94.9)
Self treatment	8.3 (1.7-32.6)	20.0 (0.3-94.9)
Nothing	20.8 (5.2-55.7)	60.0 (3.3-98.5)
Proportion of bar girls who sought formal medical treatment[ϕ] as the first treatment option for the last STI in the last year (Denominator is who ever had sex and reported STI in the last year)	N=24 50.0 (21.1-78.9)	N=5 0

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Mean waiting days before seeking treatment for the last STI in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N = 16[θ] 4.2 (2.4-5.9) M= 5.0 (2.0-6.0)	N=1[θ] 2.0 M=2.0 (2.0-2.0)
Mean expenditure (Nu) for treatment of last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=16[‡] 687.5 (42.0-1333.0) M=100.0 (0.0-1150.0)	N=0[‡] -

*Multiple responses;
[§]Others stated burning sensation;
[Φ]Formal medical treatment refers to treatment from health facilities and private doctors;
[‡]3 respondents said they did not know and were excluded from the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR).
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 37)

A considerable proportion of the bar girls in both cities did nothing to avoid STIs and HIV. However, some in Thimphu and in Phuentsholing said they always used condoms for this purpose.

Table 37: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=61	N=17
Do nothing	41.0 (28.7-54.5)	35.3 (17.8-57.9)
Wash genitalia with dettol/urine after sex	14.8 (7.3-27.4)	0
Always use condom	31.1 (19.9-45.1)	47.1 (22.9-72.7)
Sometimes use condom	18.0 (13.2-24.1)	17.6 (5.2-45.5)
Others (avoid multiple sex partners)	3.3 (0.7-13.5)	0
Cannot remember	3.3 (0.7-13.9)	0
Steps taken to avoid HIV* (Denominator is who have heard about HIV)	N=75	N=23
Do nothing	37.3 (28.4-47.3)	39.1 (22.9-58.1)
Wash genitalia with dettol/urine after sex	4.0 (1.1-13.4)	0
Always use condoms	25.3 (15.1-39.2)	34.8 (17.1-58.0)
Sometimes use condoms	16.0 (10.7-23.2)	13.0 (4.6-32.0)
Others[§]	16.0 (7.7-30.3)	13.0 (3.7-37.0)
Cannot remember	2.7 (0.3-19.1)	0

*Multiple responses
[§]Others stated sex with only husband, never had sex, refuse to have sex with the clients and frequently visit hospital for check up

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Self-perception of risk of HIV (Table 38)

Most of the bar girls, particularly in Phuentsholing thought they were not at risk of HIV. Among those who perceived themselves to be at risk of HIV, 72.7% in Thimphu thought they were at high risk and everyone in Phuentsholing considered they were at some risk.

Table 38: Self-Perception of risk of HIV

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who perceived themselves to be at risk of HIV		
Yes	28.6 (17.6-42.9)	8.0 (1.9-28.4)
No	67.5 (54.2-78.5)	92.0 (71.6-98.1)
Do not know	3.9 (0.8-16.2)	0
Level of HIV risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=22	N=2
High risk	72.7 (48.6-88.2)	0
Some risk	22.7 (10.8-41.8)	100.0
Little risk	4.5 (0.5-32.2)	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 39)

The most common reasons for considering themselves to be at high or some risk was because of never using condoms. Concomitantly, always using condoms was the most common reason cited for not considering themselves to be at risk of HIV.

Table 39: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Reasons for assessing themselves to be at high or some risk of HIV (Denominator is who thought themselves to be at high or some risk)*	N=21	N=2
Sex with multiple partner	14.3 (4.2-38.8)	0
Never used condoms	71.4 (51.7-85.4)	50.0 (0.0-100.0)
Sometimes use condoms	19.0 (6.9-42.9)	50.0 (0.0-100.0)
Do not know	4.8 (0.4-35.9)	0
Reasons for assessing themselves to be at little risk of HIV (Denominator is who perceived themselves to be at little risk)*	N=1	N=0

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Sometimes use of condoms	100.0	-
Have sex with clean/healthy partners	100.0	-
Reasons for assessing themselves to be at no risk of HIV (Denominator is who perceived themselves to be at no risk)*	N=52	N=23
Always use condoms	34.6 (20.3-52.4)	34.8 (17.5-57.2)
Sometimes use of condoms	9.6 (4.3-20.3)	8.7 (2.2-28.3)
Have sex with clean/healthy partners	28.8 (18.1-42.7)	30.4 (12.1-58.3)
Never had sex	28.8 (15.8-46.8)	34.8 (16.6-58.8)
Had HIV test	5.8 (1.7-17.8)	0
Others (Married and have one regular sex partner)	1.9 (0.2-17.4)	0
Don't know	1.9 (0.2-15.4)	0

*Multiple responses
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 40)

Only 18.2% of the bar girls in Thimphu and 12% in Phuentsholing participated in any HIV/AIDS/STI intervention Programme in the last year. All attended a workshop/meeting at the health facilities and this participation increased their knowledge about HIV/AIDS/STD/safe sex and correct use of condoms.

Table 40: Exposure to interventions

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Participated in any HIV/AIDS/STI intervention Programme in the last year	18.2 (10.0-30.8)	12.0 (3.4-34.5)
Type of interventions exposed to in the last year (Denominator is who participated in an HIV/AIDS/STI intervention in the last year)*	N=14	N=3
Workshop/meeting at the health facilities	100.0	100.0
Average time since last participated in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=14 5.8 (4.1-7.5) M=6.0 (5.0-7.0)	N=3 5.3 (0.2-10.5) M=6.0 (3.0-7.0)
Proportion of bar girls who participated in any HIV/AIDS/STI intervention Programme in the last month	1.3 (0.1-11.3)	0
Proportion of bar girls who participated in any HIV/AIDS/STI intervention Programme in the last six months	11.7 (6.2-21.0)	8.0 (1.7-29.9)

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=14 1.7 (0.7-2.7) M=1.0 (1.0-2.0)	N=3 1.0 M=1.0 (1.0-1.0)
Benefits from the session (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)*	N=14	N=3
Helped in changing behaviour	42.9 (19.4-70.0)	0
Gave useful information but did not affect behaviour	7.1 (0.8-43.8)	33.3 (0.1-99.7)
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	92.9 (45.7-99.5)	100.0

*Multiple responses
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Travelling abroad and sexual risk behaviours while abroad (Table 41, annexe 4)

Varying proportions of the bar girls, (15.6% in Thimphu and 40% in Phuentsholing) had visited another country in the last year and most of the visits were made to India. Of the 22 girls who travelled abroad only one sold sex while abroad last year.

Table 41: Travelling abroad and sexual risk behaviours while abroad

Indicators % (95 % CI)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)
Proportion of bar girls who visited another country in the last year	15.6 (8.7-26.3)	40.0 (20.0-64.0)
Proportion of bar girls who received any money/gift/etc for sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=12 8.3 (0.6-58.4)	N=10 0
Proportion of bar girls who used condom during last commercial sex while abroad in the last year (Denominator is who travelled abroad and sold sex while abroad in the last year)	N=1 100.0	N=0 -

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

3.3 Non-Bhutanese Migrant Workers

Socio-demographic characteristics (Table 42, annexe 1)

All migrant workers sampled were male and most were 25-49 years of age. The mean age of the respondents was 28.2 years in Thimphu and 27 years in Mongar. The migrant workers sampled were almost all from India, particularly form Cooch Bihar and Jalpaiguri with the exception of a small percentage (0.5%) in Thimphu who were Nepalese (annexe 1). Education level was generally low and those working in Mongar had significantly lower mean years of schooling compared to those in Thimphu ($p<0.05$). Average monthly income however was similar for the migrant workers in the two cities. More than half of the migrant workers were never married and the proportions unmarried were similar in the two cities. Among those who were currently married or never married 10.1%-16.7% were currently living with regular sex partners who were not their wives. The mean ages at first sex were 18.9 - 20.1 years.

Table 42: Socio-demographic characteristics

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Age (in years)		
<15	0	0
15-24	37.5 (33.0-42.3)	40.0 (29.7-51.3)
25-49	60.1 (55.2-64.7)	60.0 (48.7-70.3)
>49	2.4 (1.3-4.5)	0
Mean age (in years)	28.2 (27.5-29.0) M=26.0 (22.0-34.0)	27.0 (25.8-28.3) M=26.0 (23.0-30.5)
Nationality		
Indian	99.5 (98.1-99.9)	100.0
Nepalese	0.5 (0.1-1.9)	0
Years of schooling		
Never attended school	31.5 (27.2-36.1)	46.3 (35.4-57.4)
1-5	21.5 (17.8-25.8)	33.8 (24.1-45.0)
6-10	44.6 (39.8-49.4)	18.8 (11.5-29.1)
11-19	2.4 (1.3-4.5)	1.3 (0.2-8.7)
Mean years of schooling	4.6 (4.3-5.0) M=5.0 (0.0-8.0)	2.9 (2.1-3.6) M=2.0 (0.0-5.0)
Mean income in the last month (Nu)	4456.2 (4330.8-4581.6) M=4500.00 (3500.0-5000.0)	4287.5 (3808.2-4766.8) M=4000.0 (3000.0-5000.0)
Mean number of years spent as a migrant worker	4.8 (4.3-5.3) M=3 (1.0-7.0)	4.7 (4.0-5.4) M=4.5 (2.0-7.0)
Marital status		
Currently married	45.5 (40.8-50.4)	45.0 (34.3-56.2)
Never married	52.8 (47.9-57.6)	53.8 (42.6-64.6)
Formerly married (separated/widower/divorced)	1.7 (0.8-3.5)	1.3 (0.2-8.7)

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers currently living with regular sex partners other than spouse	7.5 (5.3-10.5)	10.0 (5.0-19.0)
Proportion of married non-Bhutanese migrant workers currently living with regular sex partners other than spouse (Denominator is who were currently married)	N=188 10.1 (6.5-15.4)	N=36 16.7 (7.4-33.4)
Proportion of unmarried non-Bhutanese migrant workers currently living with regular sex partners (Denominator is who were currently unmarried)	N=225 5.3 (3.0-9.2)	N=44 4.5 (1.1-17.2)
Mean age at first sex (Denominator is who ever had sex and could recall)	N=277 20.1 (19.7-20.5) M=20.0 (18.0-21.0)	N=52 18.9 (18.3-19.4) M=18.5 (18.0-20.0)

Note: M refers to median and the figures within brackets refer to inter-quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Drug taking history (Table 43)

Taking illicit drugs was more commonly reported by migrant workers in Mongar than in Thimphu ($p<0.05$). In both cities the most common route of taking drugs was through sniffing or inhaling; none injected drugs in the last year.

Table 43: Drug taking history

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers who took any drugs other than alcohol and cigarettes in the last year	7.0 (4.9-9.9)	18.8 (11.5-29.1)
Route of taking drugs (Denominator is who took illicit drugs in the last year)*	N=29	N=15
Oral	24.1 (11.4-44.0)	0
Inhaling/Sniffing	75.9 (56.0-88.6)	100.0
Injection	0	0

*Multiple responses
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Sexual behaviours (Tables 44 and 45)

In both cities approximately two thirds of the respondents reported ever having sex. Significantly more migrant workers in Mongar had penetrative sex in the last month compared to those in Thimphu (16.3% and 3.9% respectively, $p<0.05$). Buying sex was more commonly reported by workers in Mongar than in Thimphu ($p<0.05$) while having sex with regular sex partners was more common amongst workers in Thimphu than in Mongar. Group sex was not commonly reported from ether city.

Table 44: Type of sex partners

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers who ever had sex	67.1 (62.4-71.5)	65.0 (53.7-74.8)
Proportion of non-Bhutanese migrant workers who reported having any type of penetrative sex in the last month	N=410[§] 3.9 (2.4-6.3)	16.3 (9.6-26.3)
Proportion of non-Bhutanese migrant workers who reported any type of penetrative sex in the last month (Denominator is who ever had sex)	N=274[§] 5.8 (3.6-9.3)	N=52 25.0 (14.8-39.0)
Proportion of non-Bhutanese migrant workers who had sex with regular female partners in the last year	30.3 (26.0-34.9)	22.5 (14.5-33.2)
Proportion of non-Bhutanese migrant workers who had sex with regular female partners in the last year (Denominator is who ever had sex)	N=277 45.1 (39.3-51.1)	N=52 34.6 (22.7-48.9)
Proportion of non-Bhutanese migrant workers who had sex with regular female partners in the last month	3.9 (2.4-6.2)	5.0 (1.8-12.8)
Proportion of non-Bhutanese migrant workers who had sex with regular female partners in the last month (Denominator is who ever had sex)	N=277 5.8 (3.6-9.2)	N=52 7.7 (2.8-19.3)
Proportion of non-Bhutanese migrant workers who had sex with commercial* female partner in the last year	14.0 (11.0-17.8)	35.0 (25.2-46.3)
Proportion of non-Bhutanese migrant workers who had sex with commercial female partner in the last year (Denominator is who ever had sex)	N=277 20.9 (16.5-26.2)	N=52 53.8 (39.9-67.2)
Proportion of non-Bhutanese migrant workers who had sex with commercial female partner in the last month	1.9 (1.0-3.8)	15.0 (8.6-24.8)
Proportion of non-Bhutanese migrant workers who had sex with commercial female partner in the last month	N=277 2.9 (1.4-5.7)	N=52 23.1 (13.3-36.9)

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
(Denominator is who ever had sex)		
Proportion of non-Bhutanese migrant workers who reported group sex in the last year	0.7 (0.2-2.2)	2.5 (0.6-9.7)
Proportion of non-Bhutanese migrant workers who reported group sex in the last year (Denominator is who ever had sex)	N=277 1.1 (0.3-3.3)	N=52 3.8 (0.9-14.7)
Proportion of non-Bhutanese migrant workers reported group sex in the last month	0	0

*Sex in exchange of money or gifts

[§]Three respondents are missing

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Table 45 shows the mean number of sex partners of the migrant workers with different types of partners. On an average one migrant worker had more than one regular female sex partner in the last year. Among those who had bought sex in the last year (either with money or gifts) the average number of such commercial sex partners was more than one with whom the frequency of sex was more than once a month. In Mongar, only two migrant workers said they had group sex in the last year, but both had high partner numbers during group sex (N=5).

Table 45: Mean number of sex partners

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Mean number of regular female sex partners in the last year in Bhutan (Denominator who had regular sex partners in the last year)	N=125 1.3 (1.2-1.5) M=1.0 (1.0-1.0)	N=18 1.4 (1.1-1.7) M=1.0 (1.0-2.0)
Mean number of commercial[†] female sex partners in the last year in Bhutan (Denominator who had commercial sex partners in the last year)	N=58 1.7 (1.2-2.1) M=1.0 (1.0-2.0)	N=28 2.0 (1.6-2.4) M=2.0 (1.0-3.0)
Mean number of commercial female sex partners in the last month in Bhutan (Denominator who had commercial sex partners in the last month)	N=8 1.3 (0.7-1.8) M=1.0 (1.0-1.0)	N=12 1.1 (0.9-1.3) M=1.0 (1.0-1.0)
Mean number of sex acts with regular female sex partners in the last month in Bhutan (Denominator who had regular sex partners in the last month)	N=16 4.3 (1.3-7.2) M=2 (1.0-3.5)	N=4 3.8 (0.2-7.3) M=3.0 (2.5-5.0)
Mean number of sex acts with commercial	N=8	N=12

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
female sex partners in the last month (Denominator who had commercial sex partners in the last month)	1.4 (0.8-2.0) M=1.0 (1.0-1.5)	1.4 (0.9-1.9) M=1.0 (1.0-1.5)
Mean number of partners during last group sex in the last year in Bhutan (Denominator who had group sex last year)	N=3 2.0 (0.0-4.5) M=2.0 (1.0-3.0)	N=2 5.0* M=5.0 (5.0-5.0)

*Due to identical observations standard error becomes zero and hence 95% CI was not possible to calculate
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell
†Commercial refers to sex partners who were paid or given gifts in exchange of sex

Condom use with different types of sex partners (Table 46)

Condom use was more frequently reported by migrant workers in Mongar than those in Thimphu irrespective of the type of sex partners. This was also true for consistent condom use and in Thimphu more than half of the workers said they had never used condoms. During the last group sex, none of the five respondents who said they had group sex used a condom.

Table 46: Condom use with different types of sex partners

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers who ever used a condom during sex (Denominator is who ever had sex)	N=277 27.1 (22.1-32.6)	N=52 53.8 (39.9-67.2)
Used condom during last sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=75 73.3 (62.0-82.3)	N=28 78.6 (58.3-90.6)
Used condom during any type of penetrative sex in the last month (Denominator is who had any type of penetrative sex in the last month)	N=16 43.8 (20.4-70.2)	N=13 84.6 (49.0-96.9)
Condom use in the last sex with a regular female sex partner in the last year (Denominator is who reported sex with regular female sex partners in the last year)	N=125 43.2 (34.7-52.1)	N=18 66.7 (40.3-85.6)
Condom use in last sex with a commercial female sex partner in the last year (Denominator is who reported sex with commercial female sex partners in the last year)	N=58 34.5 (23.1-47.9)	N=28 71.4 (51.1-85.7)
Number of partners who used condom during last group sex in the last year (Denominator is	N=3	N=2

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
who had group sex in the last year) At least one No one	 33.3 (0.1-99.7) 66.7 (0.3-99.9)	 50.0 (0.0-100.0) 50.0 (0.0-100.0.0)
The respondent used condom during last group sex in the last year (Denominator is who had group sex in the last year)	N=3 0	N=2 0
Frequency of condom use with regular female sex partners in the last year (Denominator is who reported sex with regular female sex partners in the last year) Always Sometimes Never	N=125 27.2 (20.0-35.8) 16.8 (11.2-24.5) 56.0 (47.1-64.5)	N=18 44.4 (22.2-69.1) 22.2 (7.7-49.5) 33.3 (14.4-59.7)
Frequency of condom use with regular female sex partners in the last month (Denominator is who reported sex with regular female sex partners in the last month) Always Sometimes Never	N=16 25.0 (8.6-54.3) 18.8 (5.3-48.6) 56.3 (29.8-79.6)	N=4 50.0 (2.5-97.5) 25.0 (0.5-95.9) 25.0 (0.5-95.9)
Frequency of condom use with commercial female sex partners in the last year (Denominator is who reported sex with commercial female sex partners in the last year) Always Sometimes Never	N=58 17.2 (9.4-29.6) 17.2 (9.4-29.6) 65.5 (52.1-76.9)	N=28 50.0 (31.2-68.8) 21.4 (9.4-41.7) 28.6 (14.3-48.9)
Frequency of using condom with commercial female sex partners in the last month (Denominator is who reported sex with commercial female sex partners in the last month) Always Sometimes Never	N=8 25.0 (4.1-72.4) 12.5 (0.9-68.1) 62.5 (20.8-91.3)	N=12 58.3 (26.7-84.3) 25.0 (6.7-60.7) 16.7 (3.3-54.3)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 47)

More than 90% of the migrant workers recognised male condoms and 82.9% of the respondents in Thimphu and 95.8% in Mongar knew where condoms were available (Table 47). Most of the respondents in both cities mentioned health facilities and medical shops as the two most common places where condoms were available. A substantial

proportion of respondents in Thimphu mentioned general shop as a source of condom (45.8%) and a considerable proportion of respondents in Mongar mentioned Daechong box as a place where condoms were available (34.8%). In Thimphu only 1.7% of the respondents compared to 13.8% in Mongar said they had easy access to condoms ($p<0.05$).

Table 47: Knowledge of ever use, access to and breaking of condoms

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers who recognized a male condom (Denominator is who ever had sex)	N=277 93.1 (89.5-95.6)	N=52 92.3 (80.7-97.2)
Proportion of non-Bhutanese migrant workers who knew where condoms are available (Denominator is who ever had sex and identified condom)	N=258 82.9 (77.8-87.1)	N=48 95.8 (84.1-99.0)
Name of places or persons where condoms are available (Denominator is who knew the sources of condoms)*	N=214	N=46
General shop	45.8 (39.2-52.6)	2.2 (0.3-14.8)
Medical shop	89.3 (84.3-92.8)	82.6 (68.3-91.3)
Health facility (hospital/BHU/ORC/HISC/etc)	68.2 (61.6-742)	89.1 (75.8-95.6)
Village health worker	20.6 (15.6-26.6)	2.2 (0.3-14.8)
Condom/Daechong Box	16.8 (12.4-22.5)	34.8 (22.1-50.0)
Bar/guest house/hotel	8.9 (5.7-13.5)	2.2 (0.3-14.8)
Friends	5.1 (2.9-9.1)	8.7 (3.2-21.7)
Proportion of non-Bhutanese migrant workers who bought condoms in the last month (Denominator is who ever had sex and used condom in the last month)	N=7 14.3 (1.0-74.3)	N=11 54.5 (22.6-83.2)
Sources of condoms in the last month (Denominator is who had sex in the last month and bought condom in the last month)*	N=1	N=6
General shop	100.0	16.7 (0.9-81.4)
Medical shop	0	100.0
Health facility (hospital/BHU/ORC/HISC/etc	0	0
Village health worker	0	0
Condom/Daechong Box	0	0
Bar/guest house/hotel	0	0
Proportion of non-Bhutanese migrant workers complained of condoms	N=7 0	N=11 9.1 (0.9-53.7)

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
breaking during sex in the last month (Denominator is who had sex in the last month and used condom in the last month)		
Proportion of non-Bhutanese migrant workers reported easy access to condoms	1.7 (0.8-3.5)	13.8 (7.7-23.4)
Proportion of non-Bhutanese migrant workers who had easy access to condoms in the last month (Denominator is who had sex in the last month and used condom)	N=7 100.0	N=11 100.0

*Multiple responses
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge on the modes of HIV transmission and confidential HIV testing (Annexe 3)
Significantly more migrant workers in Thimphu than in Mongar had heard about HIV and AIDS and also had more knowledge on HIV transmission ($p<0.05$ for both). However, despite having better knowledge on HIV transmission, more migrant workers in Thimphu thought that a person can get HIV through mosquito bites ($p<0.05$). Comprehensive knowledge of HIV was computed as described earlier (section 3.1).The overall comprehensive knowledge of HIV/AIDS was very low in both cities. Twenty seven percent of the migrant workers in Thimphu and 38.8% in Mongar knew where HIV can be tested confidentially (annexe 3). Among those who knew this, only 12.4% of the migrant workers in Thimphu and 3.2% in Mongar ever tested for HIV which was in most cases voluntary and almost all received their test result.

Knowledge regarding STIs, self-reported STIs and health care seeking behaviour (Table 48)
More than half of the migrant workers in Thimphu and three quarters in Mongar were not knowledgeable about STI symptoms. Self-reported symptoms of STI were not common; only 3.2% and 1.9% of the respondents in Thimphu and Mongar respectively reported any STI symptoms in the last year. Of the nine migrant workers in Thimphu who complained of STI symptoms in the last year, one third did nothing about treatment for the last episode of illness. Only one in Mongar had such complaints and he too did not seek treatment.

Table 48: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion knew about STI symptoms (Denominator is who ever had sex)*	N=277	N=52
Discharge from penis	24.5 (19.8-30.0)	19.2 (10.4-32.7)
Burning pain on urination	24.9 (20.1-30.4)	3.8 (0.9-14.7)
Genital ulcers/sores	19.9 (15.5-25.0)	3.8 (0.9-14.7)
Swellings in groin area	11.2 (8.0-15.5)	0
Anal discharge	0.4 (0.1-2.5)	0
Anal ulcer/sores	0	0
Do not know	56.3 (50.4-62.1)	75.0 (61.0-85.2)
Proportion of non-Bhutanese migrant workers who reported having urethral discharge in the last one year (Denominator is who ever had sex)	N=277 2.9 (1.4-5.7)	N=52 1.9 (0.3-13.2)
Proportion of non-Bhutanese migrant workers who reported having anal discharge in the last one year (Denominator is who ever had sex)	N=277 1.8 (0.7-4.9)	N=52 0
Proportion of non-Bhutanese migrant workers who reported having genital ulcer/sore in the last one year (Denominator is who ever had sex)	N=277 0.7 (0.2-2.9)	N=52 0
Proportion of non-Bhutanese migrant workers who reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=277 3.2 (1.7-6.1)	N=52 1.9 (0.3-13.2)
First choice of the last STI treatment in the last year (Denominator is who ever had sex and reported STI in the last year)	N=9	N=1
Health facility (hospital/BHU/ORC/HISC/etc)	11.1 (0.9-62.6)	0
Treatment from drug seller	0	0
Treatment from private doctor	11.1 (0.9-62.6)	0
Treatment from traditional healer	11.1 (0.9-62.6)	0
Advice/treatment from friends	22.2 (3.9-67.0)	0
Self treatment	11.1 (0.9-62.6)	0
Nothing	33.3 (8.1-73.8)	100.0
Proportion of non-Bhutanese migrant workers who sought formal medical treatment$^{\phi}$ as the first treatment option for the last STI in the last year (Denominator is who ever had sex and reported STI in the last year)	N=9 22.2 (3.9-67.0)	N=1 0

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Mean waiting days before seeking treatment for the last STI in the last year (Denominator is who ever had sex , reported STI in the last year and sought treatment)	N = 6 7.3 (4.6-10.0) M= 7.0 (7.0-10.0)	N=0 -
Mean expenditure (Nu) for last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=6 411.7 (0.0-922.8) M=235 (0.0-1000.0)	N=0 -

*Multiple responses

$^{\phi}$Formal medical treatment refers to treatment from a health facility and private doctor

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 49)

Most of the migrant workers in Thimphu and in Mongar did nothing to avoid STIs and HIV (Table 49). More migrant workers in Mongar mentioned always using condoms as a means to avoid STIs and HIV than those in Thimphu ($p<0.05$ for both).

Table 49: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=277	N=52
Do nothing	53.8 (47.9-59.6)	48.1 (34.5-61.9)
Wash genitalia with dettol/urine after sexual intercourse	14.1 (10.4-18.7)	0
Always use condom	11.9 (8.6-16.3)	36.5 (24.3-50.8)
Sometimes use condom	5.8 (3.6-9.2)	13.5 (6.4-26.2)
Others (sex with wife/regular sex partner only)	4.3 (2.5-7.5)	1.9 (0.3-13.2)
Cannot remember	11.2 (8.0-15.5)	0
Steps taken to avoid HIV* (Denominator is who had heard about HIV)	N=334	N=49
Do nothing	49.1 (43.7-54.5)	32.7 (20.7-47.4)
Wash genitalia with dettol/urine after sexual intercourse	11.4 (8.4-15.3)	0
Always use condoms	8.4 (5.8-11.9)	38.8 (25.9-53.5)
Sometimes use condoms	4.2 (2.5-7.0)	14.3 (6.8-27.6)
Never had sex	16.8 (13.1-21.2)	0
Did not have sex in the last year	0	2.0 (0.3-14.0)

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Others (sex with wife/regular sex partner only)	3.6 (2.0-6.2)	12.2 (5.4-25.3)
Cannot remember	7.5 (5.1-10.9)	0

*Multiple responses
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Self-perception of risk of HIV (Table 50)

The vast majority of migrant workers in both cities did not perceive themselves to be at risk of HIV but the proportion was higher in Mongar than in Thimphu ($p<0.05$). Among the few who perceived themselves to be at risk, most of the respondents in Thimphu (80.0%) thought they were at high risk while this was true for only one individual in Mongar.

Table 50: Self-perception of risk of HIV

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers who perceived themselves to be at risk of HIV		
Yes	10.9 (8.2-14.3)	3.8 (1.2-11.2)
No	82.6 (78.6-85.9)	96.3 (88.8-98.8)
Do not know	6.5 (4.5-9.4)	0
Level of HIV risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=45	N=3
High risk	80.0 (65.2-89.5)	33.3 (0.1-99.7)
Some risk	8.9 (3.2-22.1)	33.3 (0.1-99.7)
Little risk	11.1 (4.5-24.7)	33.3 (0.1-99.7)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 51)

In Thimphu the most common reason stated for considering oneself to be at high risk of HIV was never using condoms (Table 51). Among those who perceived themselves to be at no risk of HIV, having sex with a clean partner was the most common reason provided. However, in Mongar significantly more migrant workers compared to those in Thimphu mentioned always using condoms as the reason for no risk (24.7% vs. 9.4%) ($p<0.05$).

Table 51: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Reasons for perceiving themselves to be at high or some risk (Denominator who thought themselves to be at high or some risk)*	N=40	N=2
Never used condoms	82.5 (66.8-91.7)	0
Sometimes use condoms	7.5 (2.3-21.7)	50.0 (0.0-100.0)
Others (share blade/razor)	0	50.0 (0.0-100.0)
Do not know	7.5 (2.3-21.7)	0
Reasons for assessing themselves at little risk (Denominator who perceived themselves to be at little risk)*	N=5	N=1
Always use condoms	0	0
Sometimes use of condoms	40.0 (3.8-91.9)	100.0
Have sex with clean/healthy partners	0	0
Others (never had sex)	60.0 (8.1-96.2)	0
Reasons for assessing themselves at no risk (Denominator who perceived themselves to be at no risk)*	N=341	N=77
Always use condoms	9.4 (6.7-13.0)	24.7 (16.2-35.8)
Sometimes use of condoms	3.8 (2.2-6.5)	7.8 (3.5-16.5)
Have sex with clean/healthy partners	32.3 (27.5-37.4)	35.1 (25.1-46.6)
Sex with wife/regular sex partner only	14.1 (10.8-18.2)	35.1 (25.1-46.6)
Never had sex	37.8 (32.8-43.1)	0
Tested for HIV	0.9 (0.3-2.7)	0
Others[§]	0.9 (0.3-2.7)	0
Don't know	3.5 (2.0-6.1)	0

*Multiple responses

[§]Others stated that he himself is healthy, wash after sex

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 52)

Only four individuals in Thimphu and none in Mongar had participated in any HIV/AIDS/STI intervention Programme in the last one year (Table 52). Three of those four migrant workers in Thimphu participated in workshops/meetings at the health facilities. All four said through this exposure they learnt about HIV and safer behaviours and two said it helped change their behaviour.

Table 52: Exposure to interventions

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)
Proportion of non-Bhutanese migrant workers who participated in any HIV/AIDS/STI intervention Programme in the last year	1.0 (0.4-2.6)	0
Type of interventions exposed to in the last year (Denominator is who participated in an HIV/AIDS/STI intervention in last year)* Workshop/meeting at the health facilities Others (World AIDS day)	N=4 75.0 (4.1-99.5) 25.0 (0.5-95.9)	N=0 - -
Average time since the last participation in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=3** 3.3 (0.0-17.7) M=0.0 (0.0-10.0	N=0 -
Proportion of non-Bhutanese who participated in any HIV/AIDS/STI intervention Programme in the last month	0.5 (0.1-1.9)	0
Proportion of non-Bhutanese who participated in any HIV/AIDS/STI intervention Programme in the last six months	0.5 (0.1-1.9)	0
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=3[§] 1.0 M=1.0 (1.0-1.0)	N=0 -
Benefits from the session* Helped changing behaviour Gave useful information but did not affect behaviour Learnt about HIV/AIDS/STD/safe sex and correct use of condom Information was not easily understandable Was not relevant to our needs	N=4 50.0 (2.5-97.5) 0 100.0 0 0	N=0 - - - - -

*Multiple responses
[§]Data missing
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Visits to their home country (Table 53, annexe 4)

Non-Bhutanese migrant workers were asked if they had visited their home countries in the last year and approximately half said they had, all of whom went to India. More migrant workers from Mongar than Thimphu bought sex while visiting their home country (29.8% vs. 8.3%; $p<0.05$). Of those who bought sex while visiting their home country, condom use during last sex while in India varied from 43.8% in Thimphu to 78.6% in Mongar.

Table 53: Visits to their home country

Indicators % (95 % CI)	Non-Bhutanese migrant workers Thimphu (N=413)	Non-Bhutanese migrant workers Mongar (N=80)
Proportion of non-Bhutanese migrant workers who visited their home country in the last year	46.7 (41.9-51.6)	58.8 (47.5-69.2)
Mean number of times they visited their home country in the last year (Denominator who had visited their home country in the last year)	N=193 2.3 (2.1-2.6) M=2.0 (1.0-3.0)	N=47 1.5 (1.3-1.7) M=1.0 (1.0-2.0)
Proportion of non-Bhutanese migrant workers who bought sex while visiting their home country in the last year (Denominator is who had visited their home country in the last year)	N=193 8.3 (5.1-13.2)	N=47 29.8 (18.1-44.8)
Proportion of non-Bhutanese migrant workers used condom during last commercial sex act in their home country in the last year (Denominator is who had visited their home country and reported sex in the last year)	N=16 43.8 (20.4-70.2)	N=14 78.6 (46.0-94.0)

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

3.4 Royal Bhutanese Police

Socio-demographic characteristics (Table 54, annexe 1, 2)

The socio-demographic profile of RBP sampled from Thimphu and Samdrup Jongkhar was different in several parameters (Table 54). Most respondents were between 25-49 years but on an average the RBP in Samdrup Jongkhar were older than those in Thimphu ($p<0.05$). RBP sampled from Samdrup Jongkhar had on average a lower level of education compared to those in Thimphu ($p<0.05$) with one third having no schooling at all. RBP in Thimphu had a higher income than those in Samdrup Jongkhar ($p<0.05$). The large majority of RBP lived in this city for less than 10 years and the town/districts where they lived before are cited in annexe 1. The ethnic groups that they belong to are shown in annexe 2. Although similar proportions of RBP in the two cities were married, more in Thimphu lived with their spouse than those in Samdrup Jongkhar ($p<0.01$). More RBP in Samdrup Jongkhar reported regular sex partners other than their spouse than those in Thimphu ($p<0.05$). Reported age at first sex was lower for RBP in Samdrup Jongkhar compared to those in Thimphu ($p<0.05$).

Table 54: Socio-demographic characteristics

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Age (in years)		
<15	0	0
15-24	31.0 (26.4-36.0)	15.4 (9.2-24.5)
25-49	69.0 (64.0-73.6)	84.6 (75.5-90.8)
>49	0	0
Mean age (in years)	27.0 (26.6-27.5) M=26.0 (24.0-29.0)	29.1 (28.0-30.2) M=29.1 (26.0-31.0)
Schooling in years		
No education	2.2 (1.1-4.4)	33.0 (24.0-43.4)
1-5	17.9 (14.2-22.2)	14.3 (8.4-23.3)
6-10	79.9 (75.4-83.7)	52.7 (42.3-62.9)
>10	0	0
Mean years of schooling	6.9 (6.7-7.1) M=7.0 (6.0-8.0)	4.4 (3.7-5.1) M=6.0 (0.0-7.0)
Other education (Denominator is who had no schooling)	N=8	N=18
Non-formal education	0	0
Monastic institution	12.5 (0.9-68.1)	5.6 (0.6-35.5)
None	87.5 (31.9-99.1)	94.4 (64.5-99.4)
Mean income in the last month (Nu)	4627.0 (4514.4-4739.6) M=4500.0 (4000.0-5200.0)	3808.8 (3665.8-3951.7) M=4000.0 (3250.0-4000.0)
Duration of stay in this city		
Whole life	0	1.1 (0.1-7.6)
≤10 years	93.3 (90.2-95.5)	96.7 (90.1-99.0)
>10 years	6.7 (4.5-9.8)	2.2 (0.5-8.6)
Marital status		
Currently married	57.3 (52.1-62.3)	69.2 (58.8-78.0)
Never married	39.1 (34.2-44.3)	26.4 (18.2-36.6)
Formerly married (includes separated,	3.6 (2.1-6.2)	4.4 (1.6-11.3)

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
widower and divorced)		
Proportion of married RBP currently living with spouse (Denominator is who were currently married)	N=205 96.1 (92.4-98.0)	N=63 65.5 (31.3-88.8)
Proportion of RBP who had any regular sex partners other than spouse	28.8 (24.3-33.7)	33.0 (24.0-43.4)
Proportion of married RBP who had any regular sex partners besides spouse (Denominator is who were currently married)	N=205 0.5 (0.1-3.4)	N=63 28.6 (18.6-41.2)
Proportion of unmarried RBP who had any regular sex partners (Denominator is who were never or formerly married)	N=153 66.7 (58.7-73.8)	N=28 42.9 (25.2-62.5)
Mean age at first sex (Denominator is who ever had sex could recall)	N=347 18.5 (18.3-18.7) M=18.0 (17.0-20.0)	N=91 16.9 (16.5-17.3) M=17.0 (16.0-18.0)
Mean duration in the RBP profession (in years)	7.0 (6.5-7.4) M=6.0 (4.0-10.0)	9.6 (8.7-10.6) M=10.0 (6.0-12.0)

Note: M refers to median and the figures within brackets refer to inter-quartile range (IQR)
Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Drug taking history (Table 55)

Only 1.1% of the RBP in Thimphu and 2.2% in Samdrup Jongkhar had taken any kind of drugs other than alcohol and cigarettes in the last year (Table 55). In both areas no one had injected drugs in the last year.

Table 55: Drug taking history

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Proportion of RBP who took any drugs other than alcohol and cigarettes in the last year	1.1 (0.4-3.0)	2.2 (0.5-8.6)
Route of taking drugs (Denominator is who took illicit drugs in the last year)*	N=4	N=2
Oral	100.0	100.0
Inhaling/Sniffing	0	0
Injection	0	0

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Sexual behaviours (Tables 56 and 57)

Almost all RBP had had sex some time in their lives (Table 56). More RBP in Samdrup Jongkhar than those in Thimphu had any type of penetrative sex in the last month (69.2% vs. 50.6%; $p<0.05$). Also, more RBP in Samdrup Jongkhar had sex with their spouse or

regular female partners than those in Thimphu in the last month (65.9% vs. 48.0%; $p<0.05$). Similar proportions had sex with commercial female partners in the two cities. Group sex in the last year was reported by 3.6% and 4.4% of the RBP in Thimphu and Samdrup Jongkhar respectively.

Table 56: Type of sex partners

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Proportion of RBP who ever had sex	96.9 (94.5-98.3)	100.0
Proportion of RBP who had any type of penetrative sex in the last month	50.6 (45.4-55.7)	69.2 (58.8-78.0)
Proportion of RBP who had any type of penetrative sex in the last month (Denominator is who ever had sex)	N=347 52.2 (46.9-57.4)	N=91 69.2 (58.8-78.0)
Proportion of RBP who had sex with spouse or regular female partners in the last year	84.9 (80.8-88.3)	81.3 (71.8-88.2)
Proportion of RBP who had sex with spouse or regular female partners in the last year (Denominator is who ever had sex)	N=347 87.6 (83.7-90.7)	N=91 81.3 (71.8-88.2)
Proportion of RBP who had sex with spouse or regular female partners in the last month	48.0 (42.9-53.2)	65.9 (55.4-75.1)
Proportion of RBP who had sex with spouse or regular female partners in the last month (Denominator is who ever had sex)	N=347 49.6 (44.3-54.8)	N=91 65.9 (55.4-75.1)
Proportion of RBP who had sex with commercial* female partner in the last year	25.1 (20.9-29.9)	29.7 (21.1-40.0)
Proportion of RBP who had sex with commercial female partner in the last year (Denominator is who ever had sex)	N=347 25.9 (21.6-30.8)	N=91 29.7 (21.1-40.0)
Proportion of RBP who had sex with commercial female partner in the last month	3.4 (1.9-5.8)	6.6 (2.9-14.1)
Proportion of RBP who had sex with commercial female partner in the last month (Denominator is who ever had sex)	N=347 3.5 (2.0-6.0)	N=91 6.6 (2.9-14.1)
Proportion of RBP who had group sex in the last year	3.6 (2.1-6.2)	4.4 (1.6-11.3)
Proportion of RBP who had group sex in the last year (Denominator who ever had sex)	N=347 3.7 (2.2-6.4)	N=91 4.4 (1.6-11.3)
Proportion of RBP who had group sex in the last month	0.3 (0-2.0)	2.2 (0.5-8.6)
Proportion of RBP reported who had group sex in the last month (Denominator who ever had sex)	N=347 0.3 (0-2.0)	N=91 2.2 (0.5-8.6)

*Sex in exchange of money or gifts

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

RBP in both Thimphu and Samdrup Jongkhar had multiple sex partners, both regular and commercial in the last year (Table 57). Amongst those who had group sex in the last year, the partner numbers ranged from 2-4 in both cities.

Table 57: Mean number of sex partners

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Mean number of regular female partners (including spouse) in the last year (Denominator is who had spouse or regular female sex partners in the last year)	N=304 1.2 (1.2-1.3) M=1.2 (1.0-1.0)	N=74 1.4 (1.2-1.5) M=1.0 (1.0-2.0)
Mean number of sex acts with spouse or regular female partners in the last month (Denominator is who had spouse or regular female sex partners in the last month)	N=172 6.1 (5.6-6.7) M=6.0 (3.0-10.0)	N=60 7.6 (6.1-9.2) M=5.0 (3.0-12.0)
Mean number of commercial female sex partners in the last year (Denominator is who had commercial sex in the last year)	N=90 2.5 (2.0-2.9) M=2.0 (1.0-3.0)	N=27 2.3 (1.7-2.9) M=2.0 (1.0-3.0)
Mean number of commercial female partners in the last month (Denominator is who had commercial sex in the last month)	N=12 1.3 (1.0-1.6) M=1.0 (1.0-2.0)	N=6 1.5 (0.6-2.4) M=1.0 (1.0-2.0)
Mean number of sex acts with commercial female partners in the last month (Denominator is who had commercial sex in the last month)	N=12 1.4 (1.0-1.8) M=1.0 (1.0-2.0)	N=6 1.5 (0.9-2.1) M=1.5 (1.0-2.0)
Mean number of partners during last group sex in the last year (Denominator is who had group sex in the last year)	N=13 2.2 (1.8-2.5) M=2.0 (2.0-2.0)	N=4 3.5 (1.9-5.1) M=4.0 (3.0-4.0)

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Condom use with different types of sex partners (Table 58)

More RBP in Thimphu than in Samdrup Jongkhar reported ever using a condom during sex ($p<0.05$). The proportions using condoms with their wives/regular sex partners or commercial female partners in the last year were similar for the two cities. During last group sex in the last year, 84.6% in Thimphu said that none of the partners had used condoms. In Mongar only four had group sex in the last year and all said at least one partner had used a condom and two had used condoms themselves.

Table 58: Condom use with different types of sex partners

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Ever used condom during any sexual intercourse (Denominator is who ever had sex)	N=347 58.8 (53.5-63.9)	N=91 67.0 (56.6-76.0)
Used condom during last sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=204 96.1 (92.3-98.0)	N=61 85.2 (73.6-92.3)
Used condom during any type of penetrative sex in the last month (Denominator is who had penetrative sex in the last month)	N=181 49.2 (41.9-56.5)	N=63 63.5 (50.7-74.7)
Condom use in the last anal/vaginal sex with spouse or regular female sex partners (Denominator is who reported sex with spouse or regular female sex partners in the last year)	N=304 59.5 (53.9-64.9)	N=74 59.5 (47.7-70.2)
Condom use in the last anal/vaginal sex with commercial female sex partners (Denominator is who reported sex with commercial female sex partners in the last year)	N=90 61.1 (50.5-70.8)	N=27 81.5 (60.9-92.5)
Number of partners who used condom during last group sex in the last year (Denominator is who had group sex in the last year)	N=13	N=4
At least one	15.4 (3.1-51.0)	100.0
No one	84.6 (49.0-96.9)	0
The respondent used condom during last group sex in the last year (Denominator is who had group sex in the last year)	N=13 61.5 (30.5-85.4)	N=4 50.0 (2.5-97.5)

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Consistent condom use with different types of sex partners (Table 59)

More RBP in Samdrup Jongkhar used condoms consistently with their spouse or regular female sex partners than those in Thimphu both in the last year and in the last month ($p<0.05$ for both). A significant difference was also observed with commercial female sex partners in the last year where more RBP in Thimphu reporting consistent condom use compared to those in Samdrup Jongkhar ($p<0.05$).

Table 59: Consistent condom use with different types of sex partners

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Frequency of condom use with spouse or regular female sex partners in the last year (Denominator is who reported sex with spouse or regular female sex partners in the last year)	N=304	N=74

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Always	14.8 (11.2-19.3)	43.2 (32.2-55.0)
Sometimes	44.7 (39.2-50.4)	24.3 (15.7-35.6)
Never	40.5 (35.1-46.1)	32.4 (22.6-44.1)
Frequency of condom use with spouse or regular female sex partners in the last month (Denominator is who reported sex with spouse or regular female sex partners in the last month)	N=172	N=60
Always	3.5 (1.6-7.6)	38.3 (26.7-51.5)
Sometimes	43.0 (35.8-50.6)	25.0 (15.4-37.8)
Never	53.5 (45.9-60.9)	36.7 (25.2-49.9)
Frequency of condom use with commercial female sex partners in the last year (Denominator is who reported sex with commercial female sex partners in the last year)	N=90	N=27
Always	37.8 (28.2-48.4)	70.4 (49.6-85.2)
Sometimes	24.4 (16.5-34.6)	11.1 (3.3-31.1)
Never	37.8 (28.2-48.4)	18.5 (7.5-39.1)
Frequency of condom use with commercial female sex partners in the last month (Denominator is who reported sex with commercial female sex partners in the last month)	N=12	N=6
Always	66.7 (32.9-89.1)	66.7 (14.9-95.8)
Sometimes	16.7 (3.3-54.3)	33.3 (4.2-85.1)
Never	16.7 (3.3-54.3)	0

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 60)

All respondents recognised condoms and knew where they were available. In both cities most of the RBP said that condoms were available from medical shops and health facilities. However, close to one fifths of the RBP in Thimphu said condoms were available from friends; a very small proportion in Samdrup Jongkhar (1.1%) mentioned friends as source. Of those who had sex in the last month and used condoms, only 10.1-17.5% said they had bought condoms themselves. More RBP in Samdrup Jongkhar said they had easy access to condoms whenever they needed one than those in Thimphu (44.0% vs. 23.5%; $p<0.05$).

Table 60: Knowledge of ever use, access to and breaking of condoms

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Proportion of RBP who recognized a male condom (Denominator is who ever had sex)	N=347 100.0	N=91 100.0
Proportion of RBP who knew where condoms are available (Denominator is who ever had sex and identified a condom)	N=347 100.0	N=91 100.0
Name of places or persons where condoms are available (Denominator is who knew the sources of condoms)*	N=347	N=91
General shop	9.8 (7.1-13.4)	4.4 (1.6-11.3)
Medical shop	98.8 (97.0-99.6)	76.9 (67.0-84.6)
Health facility (hospital/BHU/ORC/HISC/etc	88.5 (84.6-91.4)	97.8 (91.4-99.5)
Village health worker	13.3 (10.1-17.3)	4.4 (1.6-11.3)
Condom/Daechong Box	24.5 (20.2-29.3)	29.7 (21.1-40.0)
Bar/guest house/hotel	12.7 (9.6-16.6)	2.2 (0.5-8.6)
Friends	20.5 (16.5-25.1)	1.1 (0.1-7.6)
Proportion of RBP who bought condoms in the last month (Denominator is who had sex in the last month and used condom)	N=89 10.1 (5.3-18.5)	N=40 17.5 (8.3-33.2)
Sources of condoms in the last month (Denominator is who had sex in the last month and bought condom in the last month)*	N=9	N=7
General shop	44.4 (13.4-80.5)	14.3 (1.0-74.3)
Medical shop	100.0	100.0
Health facility (hospital/BHU/ORC/HISC/etc	0	28.6 (4.2-78.5)
Proportion of RBP who reported easy access to condoms	23.5 (19.3-28.2)	44.0 (34.0-54.5)
Proportion of RBP who reported easy access to condoms (Denominator is who had sex in the last month and used condom)	N=89 94.4 (87.0-97.7)	N=40 100.0
Reasons for not having easy access to condoms (Denominator is who reported not having easy access to condoms)*	N=5	N=0
General shop/Medical shop too far away	40.0 (3.8-91.9)	-
Do not want to carry them	60.0 (8.1-96.2)	-
Proportion of RBP complained of condom breaking during sex in the last month (Denominator is who had sex and used condom in the last month)	N=89 2.2 (0.5-8.8)	N=40 5.0 (1.2-18.9)

*Multiple responses
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Knowledge on modes of HIV transmission and confidential HIV testing (Annexe 3)

Everyone in Thimphu and 98.9% in Samdrup Jongkhar had heard about HIV/AIDS. In both areas a vast majority of the RBP thought that the risk of HIV can be reduced by using condoms correctly and by avoiding anal sex. More than 90% of the RBP thought that HIV can be transmitted to an unborn child by an infected pregnant woman and a newborn child through breastfeeding. However, a considerable percentage of RBP had misconceptions in both cities. Comprehensive knowledge of HIV was computed as described earlier (section 3.1). Comprehensive knowledge of HIV/AIDS was found to be more prevalent among the RBP in Samdrup Jongkhar than those in Thimphu ($p<0.05$). A large proportion of RBP in both cities knew where to get a confidential HIV test (annexe 3) but more RBP in Samdrup Jongkhar had ever been tested for HIV than those in Thimphu ($p<0.05$). More than 90% of the RBP in both areas had received the HIV test results in both cities. In Samdrup Jongkhar tests had been conducted more recently compared to Thimphu.

Knowledge regarding STIs, self-reported STIs and health care seeking behaviour (Table 61)

Knowledge regarding the symptoms of STIs was higher among the RBP in Thimphu than those in Samdrup Jongkhar ($p<0.05$ for all, Table 61). More RBP in Samdrup Jongkhar complained of at least one STI symptom in the last year than those in Thimphu ($p<0.05$). Most sought treatment from a health facility for their STI.

Table 61: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Proportion knew about STI symptoms (Denominator is who ever had sex)*	N=347	N=91
Discharge from penis	84.7 (80.5-88.2)	39.6 (29.9-50.1)
Burning pain on urination	69.5 (64.4-74.1)	19.8 (12.7-29.4)
Genital ulcers/sores	52.7 (47.7-58.0)	33.0 (24.0-43.4)
Swellings in groin area	15.0 (11.6-19.2)	4.4 (1.6-11.3)
Anal discharge	1.4 (0.6-3.4)	1.1 (0.1-7.6)
Anal ulcer/sores	1.2 (0.4-3.0)	0
Do not know	10.1 (7.3-13.7)	28.6 (20.1-38.9)
Proportion of RBP who reported having urethral discharge in the last one year (Denominator is who ever had sex)	N=347 0.9 (0.3-2.7)	N=91 9.9 (5.2-18.1)
Proportion of RBP who reported having anal discharge in the last one year (Denominator is who ever had sex)	N=347 0	N=91 0
Proportion of RBP who reported having genital ulcer/sore in the last one year (Denominator is who ever had sex)	N=347 0.6 (0.1-2.3)	N=91 3.3 (1.0-9.9)
Proportion of RBP who reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=347 1.2 (0.4-3.0)	N=91 11.0 (5.9-19.4)

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
First choice of the last STI treatment in the last year (Denominator is who ever had sex in life and reported STI in the last year)	N=4	N=10
Health facility (hospital/BHU/ORC/HISC/etc)	75.0 (4.1-99.5)	70.0 (31.0-92.4)
Treatment from drug seller	0	0
Treatment from private doctor	0	0
Treatment from traditional healer	0	0
Advice/treatment from friends	25.0 (0.5-95.9)	20.0 (3.7-62.2)
Self treatment	0	10.0 (0.9-57.8)
Nothing	0	0
Proportion of RBP who sought formal medical treatment$^{\phi}$ as the first treatment option for the last STI in the last year (Denominator is who ever had sex and reported STI in the last year)	N=4 75.0 (4.1-99.5)	N=10 70.0 (31.0-92.4)
Mean waiting days before seeking t treatment for the last STI in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N =4 12.8 (0.0-33.1) M=9.0 (3.0-22.5)	N=8‡ 4.9 (2.9-6.8) M=5.5 (2.5-7.0)
Mean expenditure (Nu) for the last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=4 250.0 (0.0-1045.6) M=0 (0.0-500.0)	N=8‡ 31.3 (0.0-105.1) M=0

*Multiple responses

$^{\phi}$Formal medical treatment refers to treatment from health facilities and private doctors

‡Two cases who said they did not know were excluded from the analysis

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 62)

A substantial proportion of the RBP in both areas did nothing to avoid STIs (Table 62). More RBP in Thimphu said they washed their genitalia with dettol/urine after sexual intercourse to avoid STI or HIV than those in Samdrup Jongkhar ($p<0.05$ for both).More RBP in Samdrup Jongkhar than those in Thimphu said they always used condoms to avoid STIs or HIV ($p<0.05$ for both).

Table 62: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=347	N=91
Do nothing	39.5 (34.4-44.7)	33.0 (24.0-43.4)
Wash genitalia with dettol/urine after sexual intercourse	30.3 (25.6-35.3)	1.1 (0.1-7.6)
Always use condom	17.0 (13.4-21.4)	42.9 (32.9-53.4)
Sometimes use condom	32.0 (27.3-37.1)	19.8 (12.7-29.4)
Others (sex with wife/regular sex partner only)	3.7 (2.2-6.4)	5.5 (2.3-12.7)
Cannot remember	0.3 (0.0-2.0)	0
Steps taken to avoid HIV* (Denominator is who have heard about HIV)	N=358	N=90
Do nothing	40.5 (35.5-45.7)	28.9 (20.3-39.3)
Wash genitalia with dettol/urine after sexual intercourse	28.8 (24.3-33.7)	1.1 (0.2-7.7)
Always use condoms	16.5 (13.0-20.7)	42.2 (32.3-52.8)
Sometimes use condoms	30.7 (26.1-35.7)	21.1 (13.8-31.0)
Others[§]	2.8 (1.5-5.1)	7.8 (3.7-15.6)

*Multiple responses
[§]Other stated sex with wife/regular sex partner only, never had sex
Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Self-perception of risk of HIV (Table 63)

More RBP in Thimphu than in Samdrup Jongkhar did not know whether they were at risk of HIV ($p<0.05$) Most of the RBP in both cities perceived themselves to be at high or some risk of HIV.

Table 63: Self-perception of risk of HIV

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Proportion of RBP who perceived themselves to be at risk of HIV		
Yes	13.4 (10.2-17.4)	5.5 (2.3-12.7)
No	75.4 (70.7-79.6)	93.4 (85.9-97.1)
Do not know	11.2 (8.3-14.9)	1.1 (0.1-7.6)
Level of HIV risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=48	N=5
High risk	52.1 (37.7-66.2)	40.0 (3.8-91.9)
Some risk	39.6 (26.4-54.4)	40.0 (3.8-91.9)
Little risk	8.3 (3.0-20.8)	20.0 (0.8-88.9)

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 64)

Never using condoms was the most common reason for considering themselves to be at high or some risk of HIV while sometimes use of condoms was the common reason for considering themselves to be at little risk. In Thimphu, the most common reason for not considering oneself at risk was because the sex partner was clean or healthy.

Table 64: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Reasons for perceiving themselves to be at high or some risk (Denominator is who thought themselves to be at high or some risk)*	N=44	N=4
Sex with multiple partners	0	50.0 (2.5-97.5)
Never used condoms	72.7 (57.2-84.2)	75.0 (4.1-99.5)
Sometimes use condoms	27.3 (15.8-42.8)	0
Reasons for assessing themselves to be at little risk (Denominator is who perceived themselves to be at little risk)*	N=4	N=1
Sometimes use of condoms	75.0 (4.1-99.5)	100.0
Have sex with clean/healthy partners	0	100.0
Others (never use condom)	25.0 (0.5-95.9)	0
Reasons for assessing themselves at no risk (Denominator is who perceived themselves to be at no risk)*	N=270	N=85
Always use condoms	21.5 (17.0-26.8)	31.8 (22.6-42.6)
Sometimes use of condoms	39.6 (33.9-45.6)	15.3 (9.0-24.8)
Have sex with clean/healthy partners	43.3 (37.5-49.3)	28.2 (19.5-38.9)
Had HIV test	10.0 (6.9-14.2)	18.8 (11.7-28.8)
Sex with wife/regular sex partner only	26.7 (21.7-32.3)	21.1 (13.6-31.4)
Others[§]	9.3 (6.3-13.4)	0

*Multiple responses

[§]Others stated never had sex, wash after sex

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 65)

Only three (0.8%) RBP in Thimphu participated in any HIV/AIDS/STI intervention Programme in the last year while approximately half did so in Samdrup Jongkhar ($p<0.05$). Most of those who were exposed to intervention Programmes in Samdrup Jongkhar participated in workshop/meeting at the health facilities and this was on average 4.2 months ago. The majority of the RBP in Samdrup Jongkhar said that participation in the Programme increased their knowledge on HIV/AIDS/STD and safer sex and 20% said it helped in changing their risk behaviour.

Table 65: Exposure to interventions

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Participated in any HIV/AIDS/STI intervention Programme in the last year	0.8 (0.3-2.6)	49.5 (39.2-59.8)
Type of interventions exposed to in the last year (Denominator is who participated in an HIV/AIDS/STI intervention in the last year)*	N=3	N=45
Multi sectoral task force (MSTF)‡	33.3 (0.1-99.7)	6.7 (2.1-19.4)
Workshop/meeting at the health facilities	33.3 (0.1-99.7)	95.6 (83.1-98.9)
Others (Road Transport and Safety Association, RSTA)	33.3 (0.1-99.7)	0
Average time since the last participation in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=3 5.3 (1.5-9.1) M=5.0 (4.0-7.0)	N=45 4.2 (3.8-4.7) M=4.0 (4.0-6.0)
Proportion of RBP who participated in any HIV/AIDS/STI intervention Programme in the last month	0	3.3 (1.0-9.9)
Proportion of RBP who participated in any HIV/AIDS/STI intervention Programme in the last six months	0.6 (0.1-2.2)	48.4 (38.1-58.7)
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=3 1.3 (0.0-2.8) M=1.0 (1.0-2.0)	N=45 1.7 (1.4-1.9) M=1.0 (1.0-2.0)
Benefits from the session (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)*	N=3	N=45
Helped changing behaviour	33.3 (0.1-99.7)	20.0 (10.5-34.8)
Gave useful information but did not affect behaviour	0	13.3 (5.9-27.3)
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	100.0	82.2 (67.6-91.1)

*Multiple responses
‡This is coordinated by the Dzongkhags administrations and members from all sectors including health, forest, education, agriculture, armed forces, etc.
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

Travelling abroad and sexual risk behaviours while abroad (Table 66, annexe 4)

More than half of the RBP in Samdrup Jongkhar said they visited another country in the last year while this was true for 15% of RBP from Thimphu ($p<0.05$). All had travelled to India. Seven percent of the RBP in Thimphu and 18.4% in Samdrup Jongkhar bought sex from females while in India in the last year and most, from both cities, used condom during last sex while abroad.

Table 66: Travelling abroad and sexual risk behaviours while abroad

Indicators % (95 % CI)	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)
Proportion of RBP who visited another country in the last year	15.9 (12.5-20.1)	53.8 (43.4-64.0)
Proportion of RBP who bought sex while travelling abroad in the last year (Denominator is who travelled abroad in the last year)	N=57 7.0 (2.6-17.7)	N=49 18.4 (9.6-32.3)
Proportion of RBP who used condom during last commercial sex while abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)	N=4 75.0 (4.1-99.5)	N=9 77.8 (33.0-96.1)

Note: Where responses from the total number of RBP were not available, the 'N' is provided in the particular cell

3.5 Royal Bhutanese Army

Socio-demographic characteristics (Table 67, annexe 1, 2)

RBA were sampled from Thimphu only and. most were between 25-49 years of age, but approximately one quarter were younger, between 15-24 years old. Close to one third had no schooling. Most RBA lived in this city for less than 10 years and the town/district that they lived before are shown in annexe 1. The ethnic groups that they belonged to are listed in annexe 2. Most of them were currently married among whom almost all (97.4%) lived with their spouse but 2.2% also had other regular sex partners. Among those who were unmarried or formerly married, 40.3% had regular sex partners. The mean age at first sex was 17.9 years.

Table 67: Socio-demographic characteristics

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Age (in years)	
<15	0
15-24	26.5 (22.5-31.0)
25-49	73.2 (68.7-77.3)
>49	0.2 (0.0-1.7)
Mean age (in years)	29.2 (28.6-29.9) M=28.0 (24.0-33.0)
Years of schooling	
Never attended school	31.4 (27.1-36.1)
1-5	14.6 (11.5-18.4)
6-10	54.0 (49.2-58.8)
11-19	0
Mean years of schooling	6.9 (6.7-7.1) M=7.0 (6.0-8.0)

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Other education (Denominator is who had no schooling)	N=8
Non-formal education	0
Monastic institution	12.5 (0.9-68.1)
None	87.5 (31.9-99.1)
Mean income in the last month (Nu)	4627.0 (4514.4-4739.6) M=4500.0 (4000.0-5200.0)
Duration of stay in this city	
Whole life	1.7 (0.8-3.5)
≤10 years	84.2 (80.3-87.4)
>10 years	14.1 (11.1-17.8)
Marital status	
Currently married	65.0 (60.2-69.4)
Never married	33.8 (29.4-38.6)
Formerly married (includes separated, widower and divorced)	1.2 (0.5-2.9)
Proportion of married RBA currently living with spouse (Denominator is who were currently married)	N=267 97.4 (94.6-98.8)
Proportion who had any regular sex partners other than spouse	15.6 (12.4-19.4)
Proportion of married RBA who had regular sex partners besides spouse (Denominator is who were currently married)	N=267 2.2 (1.0-4.9)
Proportion of currently unmarried RBA who had regular sex partners (Denominator is who were never or formerly married)	N=144 40.3 (32.5-48.6)
Mean age at first sex (Denominator is who had sex in life and could recall)	N=407 17.9 (17.7-18.2) M=18.0 (16.0-20.0)
Mean duration of service in the army	8.7 (8.2-9.3) M=8.0 (4.0-12.0)

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Drug taking history (Table 68)

Only 4.4% of the RBA reported taking illicit drugs in the last year which were mostly inhaled or sniffed (Table 68). No one reported injecting drugs in the last year.

Table 68: Drug taking history

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion of RBA who took any drugs other than alcohol and cigarettes in the last year	4.4 (2.8-6.9)
Route of taking drugs (Denominator is who took illicit drugs in the last year)*	N=18
Oral	5.6 (0.6-35.5)
Inhaling/Sniffing	100.0
Injection	0

Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Sexual behaviours (Tables 69 and 70)

Four respondents said they had never had sex (Table 69). Sex with spouse or other regular sex partners was reported by 80% in the last year and 66.9% in the last month. Approximately one fifth reported buying sex in the last year and 4.6% did so in the last month. Group sex was uncommon.

Table 69: Type of sex partners

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion of RBA who ever had sex	99.0 (97.4-99.6)
Proportion who had any type of penetrative sex in the last month	69.6 (64.9-73.9)
Proportion who had any type of penetrative sex in the last month (Denominator is who ever had sex)	N=407 70.3 (65.6-74.5)
Proportion who had sex with spouse or regular female partners in the last year	80.0 (75.9-83.6)
Proportion who had sex with spouse or regular female partners in the last year (Denominator is who ever had sex)	N=407 80.8 (76.7-84.4)
Proportion who had sex with spouse or regular female partners in the last month	66.9 (62.2-71.3)
Proportion who had sex with spouse or regular female partners in the last month (Denominator is who ever had sex)	N=407 67.6 (62.8-72.0)
Proportion who had sex with commercial* female partner in the last year	22.1 (18.4-26.4)
Proportion who had sex with commercial female partner in the last year (Denominator is who ever had sex)	N=407 22.4 (18.6-26.7)
Proportion who had sex with commercial female partner in the last month	4.6 (3.0-7.1)
Proportion who had sex with commercial female partner in the last month (Denominator is who ever had sex)	N=407 4.7 (3.0-7.2)
Proportion who had group sex in the last year	0.2 (0.0-1.7)
Proportion who had group sex in the last year (Denominator who ever had sex)	N=407 0.2 (0.0-1.7)
Proportion who had group sex in the last month	0

*Sex in exchange of money or gifts

Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Multiple sex partners were reported by RBA with an average of 2.7 commercial female sex partners in the last year and 1.2 in the last month (Table 70).

Table 70: Mean number of sex partners

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Mean number of regular female partners (including spouse) in the last year (Denominator is who had spouse or regular female sex partners in the last year)	N=329 1.1 (1.1-1.2) M=1.0 (1.0-1.0)
Mean number of sex acts with spouse or regular female partners in the last month (Denominator is who had spouse of regular female sex partners in the last month)	N=275 8.9 (8.2-9.6) M=8.0 (4.0-12.0)
Mean number of commercial female sex partners in the last year (Denominator is who had commercial sex in the last year)	N=91 2.7 (2.4-3.1) M=2.0 (1.0-3.0)
Mean number of commercial female partners in the last month (Denominator is who had commercial sex in the last month)	N=19 1.2 (1.0-1.4) M=1.0 (1.0-1.0)
Mean number of sex acts with commercial female partners in the last month (Denominator is who had commercial sex in the last month)	N=19 1.3 (1.0-1.5) M=1.0 (1.0-2.0)
Mean number of partners during last group sex in the last year (Denominator is who had group sex in the last year)	N=1 4.0 M=4.0 (4.0-4.0)

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Condom use with different types of sex partners (Table 71)

Half of the RBA interviewed reported having ever used condoms during sex (Table 71). Condom use was lower with regular partners compared to commercial sex partners, both during last sex and consistently whether over the last year or last month. The one respondent, who said he had had group sex in the last year, used a condom himself during the last group sex.

Table 71: Condom use different types of sex partners

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Ever used condom during any sexual intercourse (Denominator is who ever had sex)	N=407 52.3 (47.5-57.2)
Used condom during last sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=213 71.4 (64.9-77.1)
Used condom during any type of penetrative sex in the last month (Denominator is who had penetrative sex in the last month)	N=286 46.2 (40.4-52.0)
Condom use in the last anal/vaginal sex with regular female sex partners (Denominator is who reported sex with regular female sex partners in the last year)	N=329 37.7 (32.6-43.1)
Condom use in the last anal/vaginal sex with commercial female sex partners (Denominator is who reported sex with commercial female sex partners in the last year)	N=91 84.6 (75.5-90.8)

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Number of partners other than respondent who used condom during in the last group sex in the last year (Denominator is who had group sex in the last year)	N=1
At least one	0
No one	0
Do not know	100.0
The respondent used condom during last group sex in the last year (Denominator is who had group sex in the last year)	N=1 100.0
Frequency of condom use with spouse or regular female sex partners in the last year (Denominator is who reported sex with spouse or regular female sex partners in the last year)	N=329
Always	22.5 (18.3-27.3)
Sometimes	28.3 (23.6-33.4)
Never	49.2 (43.8-54.7)
Frequency of condom use with spouse or regular female sex partners in the last month (Denominator is who reported sex with spouse or regular female sex partners in the last month)	N=275
Always	22.2 (17.6-27.5)
Sometimes	25.8 (21.0-31.4)
Never	52.0 (46.1-57.9)
Frequency of condom use with commercial female sex partners in the last year (Denominator is who reported sex with commercial female sex partners in the last year)	N=91
Always	62.6 (52.1-72.1)
Sometimes	24.2 (16.4-34.2)
Never	13.2 (7.6-22.0)
Frequency of condom use with commercial female sex partners in the last month (Denominator is who reported sex with commercial female sex partners in the last month)	N=19
Always	57.9 (33.5-78.9)
Sometimes	26.3 (10.4-52.4)
Never	15.8 (4.6-42.2)

Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 72)

All the RBA interviewed recognised male condoms and almost all knew where condoms were available (Table 72). Health facilities and medical shops were the most common reported sources of condoms. Of those who used condoms in the last month, 15.2% bought condoms mainly from medical shops; a few obtained condoms from friends. Only 32.1% of the respondents said they had easy access to condoms.

Table 72: Knowledge of ever use, access to and breaking of condoms

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion who recognized a male condom (Denominator is who ever had sex)	N=407 100.0
Proportion who knew where condoms are available (Denominator is who ever had sex)	N=407 99.8 (98.3-100.0)
Name of places or persons where condoms are available (Denominator is who knew the sources of condoms)*	N=406
General shop	4.9 (3.2-7.5)
Medical shop	73.9 (69.4-77.9)
Health facility (hospital/BHU/ORC/HISC/etc	98.5 (96.7-99.3)
Village health worker	3.7 (2.2-6.0)
Condom/Daechong Box	24.6 (20.7-29.1)
Bar/guest house/hotel	22.7 (18.8-27.0)
Friends	14.8 (11.6-18.6)
Proportion who bought condoms in the last month (Denominator is who had sex in the last month and used condom)	N=132 15.2 (9.9-22.4)
Sources of condoms in the last month (Denominator is who had sex in the last month and bought condom in the last month)*	N=20
General shop	5.0 (0.6-32.3)
Medical shop	100.0
Health facility (hospital/BHU/ORC/HISC/etc	5.0 (0.6-32.3)
Village health worker	0
Condom/Daechong Box	0
Bar/guest house/hotel	0
Friends	5.0 (0.6-32.3)
Proportion who reported easy access to condoms	32.1 (27.8-36.8)
Proportion who reported easy access to condoms (Denominator is who used condom in the last month)	N=132 100.0
Proportion of RBA complained of condom breaking during sex in the last month (Denominator is who had sex and used condom in the last month)	N=132 2.3 (0.7-6.9)

*Multiple responses

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Knowledge on modes of HIV transmission and confidential HIV testing (Annexe 4)

Almost all RBA had heard about HIV/AIDS. Most knew the correct answers to how HIV is transmitted or avoided however, there were a substantial proportion who had misconceptions; 39.5% thought that HIV can be transmitted through mosquito bites. Comprehensive knowledge of HIV was computed as described earlier (section 3.1). Only 33.6% of the respondents had comprehensive knowledge of HIV/AIDS. Although 78.1% of the RBA knew where HIV can be tested confidentially, only 57% were ever tested for HIV (annexe 4). Among those who had been tested for HIV more than half had taken the test because somebody asked them to. Of those tested, 78.1% had received their results.

Knowledge regarding STIs, self-reported STIs and health care seeking behaviour (Table 73)

More than one-third of the RBA had no knowledge of STI symptoms (Table 73). Only five (1.2%) said they had any STIs in the last one year and all five sought treatment at a health facility.

Table 73: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion knew about STI symptoms (Denominator is who ever had sex)*	N=407
Discharge from penis	43.5 (38.7-48.4)
Burning pain on urination	45.7 (40.9-50.6)
Genital ulcers/sores	28.5 (24.3-33.1)
Swellings in groin area	1.7 (0.8-3.6)
Anal discharge	0
Anal ulcer/sores	5.2 (3.4-7.8)
Do not know	36.9 (32.3-41.7)
Proportion who reported having urethral discharge in the last one year (Denominator is who ever had sex)	N=407 1.2 (0.5-2.9)
Proportion who reported having anal discharge in the last one year (Denominator is who ever had sex)	N=407 0
Proportion who reported having genital ulcer/sore in the last one year (Denominator is who ever had sex)	N=407 0
Proportion who reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=407 1.2 (0.5-2.9)
First choice of the last STI treatment in the last year (Denominator is who ever had sex and reported STI in the last year)	N=5
Health facility (hospital/BHU/ORC/HISC/etc)	100.0
Treatment from drug seller	0
Treatment from private doctor	0
Treatment from traditional healer	0
Advice/treatment from friends	0
Self treatment	0
Nothing	0

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion who sought formal medical treatment[ϕ] as the first treatment option for the last STI in the last year (Denominator is who ever had sex and reported STI in the last year)	N=5 100.0
Mean waiting days before seeking treatment for the last STI in the last year (Denominator is who ever had sex , reported STI in the last year and sought treatment)	N =5 3.4 (2.3-4.5) M=3.0 (3.0-3.0)
Mean expenditure (Nu) for the last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=5 160.0 (0.0-604.2) M=0.0 (0.0-0.0)

*Multiple responses
[ϕ]Formal medical treatment refers to treatment from health facilities and private doctors
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 74)

A considerable percentage of RBA (37.35 – 39.8%) did nothing to avoid STIs and HIV (Table 74). However, a large proportion said they always or sometimes used condoms to avoid STIs and HIV.

Table 74: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=407
Do nothing	39.8 (35.1-44.7)
Wash genitalia with dettol/urine after sexual intercourse	1.5 (0.7-3.3)
Always use condom	24.8 (20.8-29.3)
Sometimes use condom	18.9 (15.4-23.0)
Others (sex with wife/regular sex partner only)	19.9 (16.3-24.1)
Cannot remember	0.2 (0.0-1.7)
Steps taken to avoid HIV* (Denominator is who have heard about HIV)	N=410
Do nothing	37.3 (32.7-42.1)
Wash genitalia with dettol/urine after sexual intercourse	2.0 (1.0-3.9)
Always use condoms	24.9 (20.9-29.3)
Sometimes use condoms	18.5 (15.1-22.6)
Others (sex with wife/regular sex partner only)	22.7 (18.9-27.0)

*Multiple responses
Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Self-perception of risk of HIV (Table 75)

A large percentage of the RBA (84.9%) perceived themselves to be at no risk of HIV (Table 75). Among those who perceived themselves to be at risk, most considered this as some or little risk.

Table 75: Self-perception of risk of HIV

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion who perceived themselves to be at risk of HIV	
Yes	5.6 (3.7-8.3)
No	84.9 (81.1-88.1)
Do not know	9.5 (7.0-12.7)
Level of HIV risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=23
High risk	8.7 (1.9-31.4)
Some risk	47.8 (27.4-69.0)
Little risk	43.5 (24.0-65.2)

Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 76)

Among those who perceived themselves to be at no risk of HIV, the most common reason was for having sex with wife or regular sex partners only. And for those who considered themselves to be at high or some risk, never using condoms was the most common reason stated.

Table 76: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Reasons for perceiving themselves to be at high or some risk (Denominator is who thought themselves to be at high or some risk)*	N=13
Never used condoms	69.2 (36.5-89.8)
Sometimes use condoms	30.8 (10.2-63.5)
Reasons for assessing themselves to be at little risk (Denominator is who perceived themselves at little risk)*	N=10
Sometimes use of condoms	60.0 (24.3-87.5)
Never use of condoms	30.0 (7.6-69.0)
Have sex with clean/healthy partners	0
Others (share blade while cutting hair)	20.0 (3.7-62.2)
Reasons for assessing themselves at no risk (Denominator is who perceived themselves to be at no risk)*	N=349
Always use condoms	28.1 (23.6-33.1)
Sometimes use of condoms	18.6 (14.9-23.1)
Have sex with clean/healthy partners	30.4 (25.8-35.4)
Sex with wife/regular sex partner only	33.5 (28.7-38.7)
Tested for HIV	14.3 (11.0-18.0)
Never had sex	1.1 (0.4-3.0)
Do not know	0.6 (0.1-2.3)

*Multiple responses

Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 77)

Less than one fifth of the RBA had participated in any HIV/AIDS/STI intervention Programme in the last year. Among those who did participate, 84.4% said it was in the army camps providing HIV awareness. All who participated said that it had raised their awareness but none mentioned that it helped in changing behaviour.

Table 77: Exposure to interventions

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Participated in any HIV/AIDS/STI intervention Programme in the last year	18.7 (15.2-22.8)
Type of interventions exposed to in the last year (Denominator is who participated in an HIV/AIDS/STI intervention in the last year)*	N=77
Multi sectoral task force (MSTF)‡	0
Workshop/meeting at the health facilities	15.6 (9.0-25.7)
HIV awareness Programme (army camp)	84.4 (74.3-91.0)
Others (school Programme)	1.3 (0.2-9.0)
Average time since the last participation in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=77 5.7 (5.0-6.4) M=7.0 (2.0-8.0)
Proportion who participated in any HIV/AIDS/STI intervention Programme in the last month	0.5 (0.1-1.9)
Proportion who participated in any HIV/AIDS/STI intervention Programme in the last six months	8.8 (6.4-11.9)
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=77 1.2 (1.1-1.4) M=1.0 (1.0-1.0)
Benefits from the session (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=77
Helped in changing behaviour	0
Gave useful information but did not affect behaviour	0
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	100.0
Information was not easily understandable	1.3 (0.2-9.0)

*Multiple responses

‡This is coordinated by the Dzongkhags administrations and members from all sectors including health, forest, education, agriculture, armed forces, etc.

Note: M refers to median and the figures within brackets refer to inter quartile range. (IQR)

Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

Travelling abroad and sexual risk behaviour while abroad (Table 78, annexe 4)

More than one fifth of the RBA visited another country in the last year and this was mostly to India (Table 78). Among those who travelled abroad in the last year 15.7% bought sex while abroad and every one used condom in the last commercial sex.

Table 78: Travelling abroad and sexual risk behaviour while abroad

Indicators % (95 % CI)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion who visited another country in the last year	21.7 (17.9-25.9)
Proportion who bought sex while travelling abroad in the last year (Denominator is who travelled abroad in the last year)	N=89 15.7 (9.4-25.0)
Proportion who used condom during last commercial sex act while abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)	N=14 100.0

Note: Where responses from the total number of RBA were not available, the 'N' is provided in the particular cell

3.6 Taxi Drivers

Socio-demographic characteristics (Table 79, annexe 1, 2)

Table 79 provides the socio-demographic profile of taxi drivers in Thimphu and in Phuentsholing. Most of the taxi drivers were 25-49 years of age. In both cities most taxi drivers had 6-10 years of schooling and in Phuentsholing one third had no schooling. In both cities but particularly in Phuentsholing, a substantial proportion of taxi drivers did not live in the city. Among those who did live in town, most had been living there for 10 years or less. The town/districts that they lived in before living in this city are listed in annexe 1. In Thimphu the taxi drivers had on average been working as drivers for a shorter duration that in Phuentsholing ($p<0.05$). The ethnic groups that they belonged to are listed in annexe 2. Most of the taxi drivers in Thimphu and in Phuentsholing were currently married. Being married and at the same time living with another regular sex partner was not uncommon among taxi drivers in Thimphu. For currently unmarried taxi drivers, more in Thimphu had regular sex partners than those in Phuentsholing (65.0% vs. 13.3%; $p<0.05$). The taxi drivers in Phuentsholing had their first sex at an earlier age than those in Thimphu ($p<0.05$).

Table 79: Socio-demographic characteristics

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Age (in years)		
<15	0	0
15-24	10.8 (6.6-17.0)	11.0 (7.7-15.4)
25-49	88.2 (82.3-92.3)	84.9 (76.3-90.8)
>49	1.0 (0.3-4.0)	4.1 (1.3-12.5)
Mean age (in years)	30.9 (29.6-32.2) M=30.0 (26.0-35.0)	33.8 (31.3-36.3) M=33.0 (28.0-39.0)
Years of schooling		
No education	13.3 (6.9-24.1)	32.9 (23.9-43.4)
1-5	20.5 (15.3-27.0)	13.7 (10.0-18.5)
6-10	62.6 (54.2-70.3)	49.3 (36.1-62.6)
>10	3.6 (1.6-8.1)	4.1 (0.7-20.1)

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Mean years of schooling	6.5 (5.9-7.1) M=8.0 (5.0-10.0)	5.3 (4.5-6.0) M=6.0 (0.0-8.0)
Other education (denominator is those who had no schooling)	N=26	N=24
Non-formal education	0	0
Monastic institution	30.8 (12.9-57.1)	8.3 (2.4-25.5)
None	69.2 (42.9-87.1)	91.7 (74.5-97.6)
Mean income in the last month (Nu)	15394.9 (13534.0-17255.7) M=15000.0 (10000.0-18000.0)	11835.6 (10291.8-13379.4) M=12000.0 (9000.0-14000.0)
Proportion who usually lived in this town	71.3 (54.5-83.7)	60.3 (26.7-86.3)
Duration of stay in this town (Denominator is who usually live in this town)	N=139	N=44
Whole life	15.1 (8.0-26.7)	6.8 (2.4-17.7)
≤10 years	54.0 (42.5-65.0)	77.3 (55.1-90.4)
>10 years	30.9 (24.5-38.2)	15.9 (5.4-38.4)
Duration of stay in this town (Denominator is who do not usually live in this town) (in days)	N=56 7.7 (4.0-11.4) M=5.0 (2.0-7.0)	N=28* 3.3 (1.7-5.0) M=3.0 (2.0-4.0)
Whether working full or part time as a taxi driver		
Full time	88.7 (80.5-93.7)	100.0
Part time	11.3 (6.3-19.5)	0
Mean duration in the profession of a taxi driver (in years)	4.8 (3.9-5.8) M=5.0 (2.0-7.0)	7.5 (5.9-9.2) M=7.0 (4.0-10.0)
Marital status		
Currently married	69.2 (61.0-76.4)	79.5 (72.3-85.1)
Never married	25.1 (19.3-32.0)	15.1 (11.0-20.3)
Formerly married (includes separated, widower and divorced)	5.6 (2.8-11.1)	5.5 (2.4-11.8)
Proportion of married taxi drivers currently living with spouse (Denominator is who were currently married)	N=135 94.1 (86.7-97.5)	N=58 65.5 (31.3-88.8)
Proportion of taxi drivers who had any regular sex partners other than spouse	49.2 (34.3-64.3)	9.6 (0.7-60.0)
Proportion of married taxi drivers who had regular sex partners besides spouse (Denominator is who were currently married)	N=135 42.2 (26.2-60.0)	N=58 8.6 (0.3-71.8)
Proportion of unmarried taxi drivers who had regular sex partners (Denominator is who were never or formerly married)	N=60 65.0 (46.7-79.7)	N=15 13.3 (4.0-36.0)
Mean age at first sex (Denominator is who ever had	N=190 18.1 (17.4-18.8)	N=73 16.6 (16.2-17.0)

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
sex and could recall)	M=18.0 (16.0-20.0)	M=16.0 (15.0-18.0)

*One respondent said he did not know and was excluded from the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Drug taking history (Table 80)

Taking illicit drugs in the last year was reported by 18.5% and 13.7% of the taxi drivers in Thimphu and Phuentsholing, respectively (Table 80). One taxi driver in Thimphu said he had injected drugs in the last year but no one in Phuentsholing injected drugs.

Table 80: Drug taking history

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who had taken any drugs other than alcohol and cigarettes in the last year	18.5 (12.8-25.9)	13.7 (5.9-28.5)
Proportion of taxi drivers who injected drugs in the last year	0.5 (0.01-2.8)	0
Route of taking drugs (Denominator is who took illicit drugs in the last year)*	N=36	N=10
Oral	27.8 (8.4-61.6)	20.0 (3.6-62.6)
Inhaling/Sniffing	72.2 (38.2-91.6)	100.0
Injection	2.8 (0.2-25.5)	0
Proportion of taxi drivers who injected drugs in the last two months	0	0
Proportion of taxi drivers borrowed/lent used needles/syringes during the last time in the last year (Denominator is who injected drugs in the last year)	N=1[§] -	N=0 -

*Multiple responses
[§]One respondent who had injected did not respond and was therefore excluded from the analysis
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Sexual behaviours (Tables 81 and 82)

Five taxi drivers in Thimphu said they had never had sex. More than 80% in both cities had had sex in the last month which was mostly with spouse or regular sex partner (Table 81). Having sex in exchange of money or gifts was not uncommon for taxi drivers particularly in Thimphu, although the proportions reporting this from the two cities were similar. Group sex in the last year was reported by 2.1% of the taxi drivers in Thimphu and none in Phuentsholing.

Table 81: Sex partners of the taxi drivers

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who ever had sex	97.4 (91.8-99.2)	100.0
Proportion of taxi drivers who had any type of penetrative sex in the last month	84.1 (71.1-91.1)	83.6 (69.2-92.0)
Proportion of taxi drivers who had any type of penetrative sex in the last month (Denominator is who ever had sex)	N=190 86.3 (75.9-92.7)	N=73 83.6 (69.2-92.0)
Proportion of taxi drivers who had sex with spouse or regular female sex partners in the last year	90.8 (82.6-95.3)	84.9 (76.6-90.7)
Proportion of taxi drivers who had sex with spouse or regular female sex partners in the last year (Denominator is who ever had sex)	N=190 93.2 (87.9-96.2)	N=73 84.9 (76.6-90.7)
Proportion of taxi drivers who had sex with spouse or regular female sex partners in the last month	83.1 (70.9-90.8)	78.1 (69.7-84.7)
Proportion of taxi drivers who had sex with spouse or regular female sex partners in the last month (Denominator is who ever had sex)	N=190 85.3 (75.6-91.5)	N=73 78.1 (69.7-84.7)
Proportion of taxi drivers who had sex with commercial* female partner in the last year	40.0 (32.0-48.6)	26.0 (8.3-57.8)
Proportion of taxi drivers who had sex with commercial female partner in the last year (Denominator is who ever had sex)	N=190 41.1 (33.5-49.1)	N=73 26.0 (8.3-57.8)
Proportion of taxi drivers who had sex with commercial female partner in the last month	34.4 (28.2-41.1)	12.3 (1.6-55.2)
Proportion of taxi drivers who had sex with commercial female partner in the last month (Denominator is who ever had sex)	N=190 35.3 (29.5-41.5)	N=73 12.3 (1.6-55.2)
Proportion of taxi drivers who had group sex in the last year	2.1 (0.7-5.9)	0
Proportion of taxi drivers who had group sex in the last year (Denominator is who ever had sex)	N=190 2.1 (0.7-5.9)	N=73 0
Proportion of taxi drivers who had group sex in the last month	0	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

*Sex in exchange of money or gifts

Taxi drivers on average had more than one regular female sex partner in the last year (Table 82). The average numbers of commercial partners in the last year were higher in comparison to regular partners in both cities (5.5 in Thimphu and 2.9 in Phuentsholing).

Table 82: Mean number of sex partners

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Mean number of regular female sex partners (including spouse) in the last year (Denominator is who had sex with spouse or regular sex in the last year)	N=177 1.8 (1.5-2.0) M=1.8 (1.0-2.0)	N=62 1.1 (0.9-1.3) M=1.0 (1.0-1.0)
Mean number of commercial female sex partners in the last year (Denominator is who had sex with commercial female partners in the last year)	N=77* 5.5 (3.8-7.2) M=3.0 (2.0-9.0)	N=19 2.9 (2.0-3.9) M=2.0 (2.0-4.0)
Mean number of commercial female partners in the last month (Denominator is who had sex with commercial female partner in the last month)	N=67 2.3 (1.7-3.0) M=2.0 (1.0-3.0)	N=9 1.4 (0.4-2.5) M=1.0 (1.0-1.0)
Mean number of sex acts with spouse or regular female sex partners (who they live with) in the last month (Denominator is who had sex with spouse or regular female partner in the last month)	N=160 11.7 (9.9-13.5) M=10.0 (4.0-17.0)	N=57 7.2 (3.7-10.7) M=6.0 (4.0-10.0)
Mean number of sex acts with commercial female partners in the last month (Denominator is who had sex with commercial female partner in the last month)	N=67 4.9 (3.0-6.8) M=3.0 (1.0-6.0)	N=9 4.1 (0.0-10.1) M=1.0 (1.0-8.0)
Mean number of partners during group sex in the last year (Denominator is who had group sex in the last year)	N=4 3.5 (0.0-7.6) M=3.0 (2.5-4.5)	N=0 -

*One respondent said he did not know and was excluded from the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Condom use with different types of sex partners (Table 83)

Approximately three quarters of taxi drivers in both cities ever used condoms during sex (Table 83). In the last year, using condoms in last sex (with any type of sex partner) or specifically with spouse/regular sex partner was more commonly reported by taxi drivers in Thimphu than in Phuentsholing ($p<0.05$ for both). With commercial female partners, all taxi drivers in Phuentsholing and 91% in Thimphu reported using a condom during last sex in the last year. The same pattern was observed with consistent condom use. Four taxi drivers in Thimphu had group sex in the last year and all four used condoms themselves.

Table 83: Condom use with different types of sex partners

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Ever used condoms during any sexual intercourse (Denominator is who ever had sex)	N=190 74.2 (66.4-80.7)	N=73 76.7 (57.9-88.7)
Used condom during last sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=141 94.3 (86.7-97.7)	N=56 73.2 (69.5-76.6)
Used condom during any type of penetrative sex in the last month (Denominator is who had any type of penetrative sex in the last month)	N=164 75.6 (69.3-81.0)	N=61 73.8 (52.5-87.7)
Condom use in the last anal/vaginal sex with spouse or regular female sex partners (Denominator is who reported sex with spouse or regular female sex partners in the last year)	N=177 72.9 (65.7-79.0)	N=62 51.6 (43.3-59.8)
Condom use in the last anal/vaginal sex with commercial female sex partners (Denominator is who had commercial female sex partners in the last year)	N=78 91.0 (82.9-95.5)	N=19 100.0
Number of partners who used condom during the last group sex in the last year (Denominator is who had group sex in the last year)	N=4	N=0
At least one	75.0 (3.9-99.6)	-
No one	0.0	-
Do not know	25.0 (0.4-96.1)	-
The respondent used condom in the last group sex in the last year (Denominator is who had group sex in the last year)	N=4 100.0	N=0 -
Frequency of condom use with spouse or regular female sex partners in the last year (Denominator is who had sex with spouse or regular female sex partners in the last year)	N=177	N=62
Always	44.6 (39.1-50.3)	37.1 (16.9-63.0)
Sometimes	30.5 (24.9-36.8)	37.1 (26.9-48.6)
Never	24.9 (18.9-31.9)	25.8 (13.9-42.8)
Frequency of condom use with spouse or regular female sex partners in the last month (Denominator is who had sex with spouse or regular female sex partners in the last month)	N=162	N=57
Always	45.1 (39.1-51.1)	35.1 (13.4-65.4)
Sometimes	31.5 (25.0-38.8)	36.8 (24.8-50.8)
Never	23.5 (17.6-30.5)	28.1 (15.0-46.3)

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Frequency of condom use with commercial female sex partners in the last year (Denominator is who reported sex with commercial female sex partners in the last year)	N=78	N=19
Always	67.9 (59.5-75.4)	100.0
Sometimes	24.4 (16.3-34.7)	0
Never	7.7 (4.2-13.6)	0
Frequency of condom use with commercial female sex partners in the last month (Denominator is who reported sex with commercial female sex partners in the last month)	N=67	N=9
Always	73.1 (61.9-82.0)	100.0
Sometimes	23.9 (14.5-36.8)	0
Never	3.0 (0.7-12.2)	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 84)

All taxi drivers recognised a male condom and knew where condoms were available (Table 84). The most common sources of condoms mentioned were medical shops and health facilities. In addition, in Thimphu close to half of the taxi drivers mentioned Daechong box and bar/guest house/hotel as sources of condoms. More taxi drivers in Thimphu bought condoms in the last month than those in Phuentsholing ($p<0.05$). Medial shops were by far the most common place for buying condoms. Breaking of condoms during sex was reported by 18.5% of the taxi drivers in Thimphu and 4.4% in Phuentsholing. In both cities, more than 60% of the taxi drivers said they had easy access to condoms.

Table 84: Knowledge of ever use, access to and breaking of condoms

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who recognized a male condom (Denominator is who ever had sex)	N=190 100.0	N=73 100.0
Proportion of taxi drivers who knew where condoms are available (Denominator is who ever had sex and identified a condom)	N=190 100.0	N=73 100.0
Name of places or persons where condoms are available (Denominator is who knew the sources of condoms)*	N=190	N=73

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
General shop	6.8 (3.3-13.6)	4.1 (1.8-8.9)
Medical shop	79.5 (67.4-87.9)	78.1 (45.3-93.9)
Health facility (hospital/BHU/ORC/HISC/etc	89.5 (81.6-94.2)	100.0
Village health worker	18.9 (8.2-38.0)	2.7 (0.7-10.4)
Condom/Daechong Box	51.6 (38.3-64.6)	20.5 (6.1-50.8)
Bar/guest house/hotel	45.8 (35.0-57.0)	6.8 (1.6-24.4)
Friends	6.3 (2.3-16.1)	0
Proportion of taxi drivers who bought condoms in the last month (Denominator is who had sex in the last month and used condoms)	N=190 28.4 (22.9-34.7)	N=73 6.8 (3.8-12.1)
Sources of condoms in the last month (Denominator is who had sex in the last month and bought condoms in the last month)*	N=54	N=5
General shop	16.7 (6.0-38.4)	20.0 (0.0-99.5)
Medical shop	90.7 (79.3-96.2)	100.0
Health facility (hospital/BHU/ORC/HISC/etc	13.0 (2.9-42.3)	0
Village health worker	3.7 (0.4-27.1)	0
Condom/Daechong Box	7.4 (1.8-26.3)	0
Bar/guest house/hotel	9.3 (2.3-30.4)	0
Friends	7.4 (2.2-22.0)	0
Proportion of taxi drivers who complained of condom breaking during sex in the last month (Denominator is who had sex and used condom in the last month)	N=124 18.5 (13.6-24.8)	N=45 4.4 (0.2-47.3)
Proportion of taxi drivers who reported easy access to condoms	62.6 (56.3-68.5)	61.6 (39.4-79.9)
Proportion of taxi drivers who reported easy access to condoms (Denominator is who had used condom in the last month)	N=124 98.4 (92.5-99.7)	N=45 100.0
Reasons for not having easy access to condoms (Denominator is who reported not having easy access to condoms)*	N=2	N=0
Shy to buy condom	50.0 (0.0-100.0)	-
Do not want to carry them	50.0 (0.0-100.0)	-

*Multiple responses

Note: M refers to median and the figures within bracket refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge on the modes of HIV transmission and confidential HIV testing (Annexe 3)
Almost all taxi drivers had heard about HIV/AIDS. Most of the taxi drivers in Thimphu and in Phuentsholing knew how HIV is transmitted but many also had misconceptions especially with regard to transmission through mosquito bites. Comprehensive knowledge of HIV was computed as described earlier (section 3.1). Thirty eight percent (37.9%) of the taxi drivers in Thimphu and 8.2% in Phuentsholing had comprehensive knowledge of HIV/AIDS. More taxi drivers in Thimphu knew where to get a confidential test for HIV than those in Phuentsholing ($p<0.05$). However, similar proportions in both cities (approximately one third) had ever been tested for HIV and in most cases this was voluntary (annexe 3). Among those who were tested more than 80% had received the result. Most of the tests in Thimphu (62.3%) were conducted within the last year, while in Phuentsholing they were mostly conducted more than a year ago.

Knowledge regarding STIs, self-reported STIs and health care seeking behaviour (Table 85)
More taxi drivers in Phuentsholing did not know the symptoms of STIs than those in Thimphu ($p<0.05$). Fourteen percent of the taxi drivers in Thimphu and 1.4% in Phuentsholing complained of an STI in the last one year.

Table 85: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Knowledge on STI symptoms (Denominator is who had sex in life)*	N=190	N=73
Discharge from penis	50.5 (38.7-62.3)	15.1 (2.3-57.1)
Burning pain on urination	44.2 (31.2-58.0)	11.0 (3.4-29.9)
Genital ulcers/sores	39.5 (30.3-49.5)	2.7 (0.9-7.7)
Swellings in groin area	27.9 (16.9-42.4)	1.4 (0.1-22.4)
Anal discharge	0	0
Anal ulcer/sores	0	0
Others[§]	0	6.8 (2.5-17.7)
Do not know	25.3 (16.6-36.5)	79.5 (42.9-95.2)
Proportion of taxi drivers who reported having urethral discharge in the last year (Denominator is who ever had sex)	N=190 10.5 (5.7-18.7)	N=73 1.4 (0.1-22.4)
Proportion of taxi drivers who reported having anal discharge in the last one year (Denominator is who ever had sex)	N=190 1.1 (0.2-4.7)	N=73 0
Proportion of taxi drivers who reported having genital ulcer/sore in the last one year (Denominator is who ever had sex)	N=190 3.2 (1.3-7.2)	N=73 0

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=190 13.7 (7.5-23.6)	N=73 1.4 (0.1-22.4)
First choice of the last STI treatment in the last year (Denominator is who ever had sex and reported STI in the last year)	N=26	N=1
Health facility (hospital/BHU/ORC/HISC/etc)	53.8 (22.4-82.5)	100.0
Treatment from drug seller	15.4 (.8-39.6)	0
Treatment from traditional healer	3.8 (0.6-19.8)	0
Advice/treatment from friends	7.7 (1.2-35.7)	0
Self treatment	19.2 (8.1-39.3)	0
Proportion of taxi drivers who sought formal medical treatment[ϕ] as the first treatment option in the last STI in the last year (Denominator is who ever had sex and reported STI in the last year)	N=26 53.8 (22.4-82.5)	N=1 100.0
Mean waiting days before seeking treatment for the last STI in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N =26 6.6 (4.3-8.8) M=6.5 (3.0-7.0)	N=1 3.0 M=3.0 (3.0-3.0)
Mean expenditure (Nu) in last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=26 1123.1 (264.1-1982.0) M=0 (0.0-1200.0)	N=1 0 (free) M=0

*Multiple responses
[§]Others stated weight loss and fever
[ϕ]Formal medical treatment refers to treatment from health facilities and private doctors
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 86)

In both cities, most of the taxi drivers mentioned using condoms always or sometimes during sex as a measure to avoid STIs and HIV (Table 86). In Phuentsholing, close to one quarter of the taxi drivers said they did nothing to avoid either HIV or STIs.

Table 86: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=190	N=73
Do nothing	15.3 (10.1-22.4)	26.0 (11.0-50.0)
Wash genitalia with dettol/urine after sexual intercourse	6.3 (3.1-12.3)	0
Always use condom	44.2 (38.3-50.3)	43.8 (20.4-70.3)
Sometimes use condom	26.8 (21.4-33.1)	30.1 (23.1-38.3)
Others (sex with wife/regular sex partner only)	13.7 (8.4-21.5)	0
Cannot remember	0.5 (0.1-3.9)	0
Steps taken to avoid HIV* (Denominator is who had heard about HIV)	N=191	N=73
Do nothing	13.1 (9.3-18.0)	23.3 (11.3-42.1)
Never share needles/syringes	0	0
Wash genitalia with dettol/urine after sexual intercourse	4.2 (2.1-8.2)	0
Always use condoms	44.0 (37.4-50.8)	43.8 (20.4-70.3)
Sometimes use condoms	25.7 (20.4-31.8)	30.1 (23.1-38.3)
Others[§]	18.3 (12.8-25.6)	5.5 (1.0-25.9)
Cannot remember	1.1 (0.2-5.2)	0

*Multiple responses

[§]Others stated sex with wife/regular sex partner only, never had sex, never share blade while cutting hair & never had sex for many years

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Self-perception of risk of HIV (Table 87)

The vast majority of taxi drivers did not consider themselves to be at risk of HIV and this was more common among those in Phuentsholing than in Thimphu ($p<0.05$).

Table 87: Self-perception of risk of HIV

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who perceived themselves to be at risk of HIV		
Yes	14.4 (9.1-21.9)	1.4 (0.2-7.2)
No	85.6 (78.1-90.9)	98.6 (92.8-99.8)
Do not know	0	0

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Level of HIV risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=28	N=1
High risk	35.7 (22.8-51.1)	0
Some risk	35.7 (16.8-60.5)	0
Little risk	28.6 (16.7-44.4)	100.0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 88)

In both cities, among those who perceived themselves to be at no risk the main reason stated for this was always or sometimes using condoms during sex (Table 88). Of the 20 taxi drivers in Thimphu who thought they were at high or some risk, the main reason for thinking this was because of never or sometimes using condoms during sex.

Table 88: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Reasons for perceiving themselves to be at high or some risk (Denominator is who thought themselves to be at high or some risk)*	N=20	N=0
Frequently/occasionally share injections	0	-
Sex with multiple partners	10.0 (1.8-40.4)	-
Never use condoms	40.0 (17.4-67.8)	-
Sometimes use condoms	40.0 (20.3-63.6)	-
Others[§]	15.0 (2.4-56.4)	-
Do not know	5.0 (0.5-33.7)	-
Reasons for perceiving themselves to be at little risk (Denominator is who perceived themselves to be at little risk)*	N=8	N=1
Never/occasionally share injections	0	0
Always use condoms	12.5 (0.7-74.3)	0
Sometimes use condoms	37.5 (5.6-86.0)	100.0
Never use condoms	25.0 (4.6-69.8)	0
Have sex with clean/healthy partners	0	0
Others[§§]	25.0 (4.6-69.8)	0
Reasons for perceiving themselves to be at no risk (Denominator is who perceived themselves to be at no risk)*	N=167	N=72

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Never share injections	0	0
Occasionally share injections	0	0
Always use condoms	46.7 (41.8-51.7)	44.4 (21.3-70.2)
Sometimes use condoms	22.8 (16.2-30.9)	27.8 (24.1-31.8)
Have sex with clean/healthy partners	29.9 (22.4-38.8)	48.6 (29.8-67.8)
Sex with wife/regular sex partner only	16.8 (11.0-24.6)	13.9 (6.6-27.1)
Never had sex	2.4 (0.8-6.7)	2.8 (0.5-14.4)
Tested for HIV	0	1.4 (0.2-7.5)
Others[§§§]	4.2 (1.2-13.1)	0
Do not know	1.2 (0.2-6.1)	0

*Multiple responses
[§] Others stated share blade /hair cut, condom are not 100% guaranteed to protect from HIV
[§§] Others stated condom is not 100% guaranteed to protect from HIV, using blade while cutting hair
[§§§]Others stated, already tested for HIV, and did not have sex last year
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 89)

Just over one quarter of the taxi drivers in Thimphu and only one in Phuentsholing said they had participated in any HIV/AIDS/STI intervention Programme in the last year (Table 89). Most of the taxi drivers in Thimphu had participated in sessions conducted by the Road Transport and Safety Association and in workshops/meetings at health facilities. The vast majority who attended these sessions said they had learnt about HIV/AIDS, and more than one fourth also said that it had helped them change their behaviour.

Table 89: Exposure to interventions

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who participated in any HIV/AIDS/STI intervention Programme in the last year	26.7 (17.3-38.7)	1.4 (0.1-22.4)
Type of interventions exposed to in the last year (Denominator is who participated in an HIV/AIDS/STI intervention in the last year)*	N=52	N=1
Multi sectoral task force (MSTF)[‡]	3.8 (0.8-17.3)	0
Road Transport and Safety Association sessions (RSTA)	67.3 (52.1-79.6)	100.0
Workshop/meeting at the health facilities	44.2 (31.6-57.7)	0
Average time since the last participation in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=52 5.8 (5.3-6.4) M=5.5 (5.0-7.0)	N=1 3.0 M=3.0 (3.0-3.0)

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who participated in any HIV/AIDS/STI intervention Programme in the last month	0	0
Proportion of taxi drivers who participated in any HIV/AIDS/STI intervention Programme in the last six months	16.9 (10.0-27.1)	1.4 (0.1-22.4)
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=52 1.6 (1.3-1.8) M=1.0 (1.0-2.0)	N=1 1.0 M=1.0 (1.0-1.0)
Benefits from the session (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)* Helped in changing behaviour Learnt about HIV/AIDS/STD/safe sex and correct use of condom Information was not easily understandable	N=52 26.9 (15.0-43.5) 90.4 (81.5-95.3) 1.9 (0.2-18.3)	N=1 0 100.0 0

*Multiple responses
‡ This is coordinated by the Dzongkhags administrations and members from all sectors including health, forest, education, agriculture, armed forces, etc.
Note: M refers to median and the figures within bracket refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Travelling abroad and sexual risk behaviour while abroad (Table 90, annexe 4)

Significantly more taxi drivers in Phuentsholing than in Thimphu visited another country in the last year ($p<0.05$) and in both cities most travelled to India (annexe 4). Of these, 18.3% in Thimphu and 24.2% in Phuentsholing bought sex from females while abroad and all used condoms during the last sex while abroad.

Table 90: Travelling abroad and sexual risk behaviour while abroad

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
Proportion of taxi drivers who visited another country in the last year	47.7 (35.9-59.7)	90.4 (78.1-96.1)
Proportion of taxi drivers who bought sex while travelling abroad in the last year (Denominator is who travelled abroad in the last year)	N=93 18.3 (8.4-35.2)	N=66 24.2 (1.0-48.0)
Proportion of taxi drivers who used condom during last commercial sex	N=17 100.0	N=16 100.0

Indicators % (95 % CI)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)
while abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)		

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

3.7 Truckers

Socio-demographic characteristics (Table 91, annexe 1, 2)

Table 91 provides the socio-demographic profile of truckers in Thimphu and in Samdrup Jongkhar. Most of the truckers were 25-49 years of age and they were all Bhutanese. A considerable proportion in both cities had no education with the mean years of schooling being 4 years in Thimphu and 3 years in Samdrup Jongkhar. Truckers in Thimphu had higher mean income than those in Samdrup Jongkhar ($p<0.05$). Forty percent of the truckers in Thimphu and 60.0% in Samdrup Jongkhar lived in the same town. However in both cities, a very small proportion of truckers had been living in the same town for all their lives; most had been living there for 10 years or less. The town/districts that they were living in before this city are listed in annexe 1. The eithnic groups that they belonged to are shown in annexe 2. Approximately half the truckers were currently married and were all living with their spouse. Among those who were currently married, 5.7% in Thimphu and 5% in Samdrup Jongkhar also had regular sex partners other than their wives. Among those who were never or formerly married, 44.4% in Thimphu and 30.0% in Samdrup Jongkhar had regular sex partners. Age at first sex was 17.1 and 19.1 years in Thimphu and in Samdrup Jongkhar respectively. More than 60% of the truckers were drivers.

Table 91: Socio-demographic characteristics

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Age (in years)		
<15	0	0
15-24	43.9 (36.5-51.5)	37.5 (24.3-52.8)
25-49	56.1 (48.5-63.5)	62.5 (47.2-75.7)
>49	0	0
Mean age (in years)	26.6 (25.4-27.9) M=25.0 (22.0-30.0)	28.8 (24.7-32.9) M=29.5 (19.0-38.0)
Nationality		
Bhutanese	100.0	100.0
Years of schooling		
No education	36.7 (27.0-47.7)	42.5 (36.5-48.8)
1-5	19.4 (11.6-30.6)	27.5 (14.0-46.9)

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
6-10 ≥10	41.8 (28.7-56.3) 2.0 (0.4-10.0)	30.0 (15.7-49.6) 0
Mean years of schooling	4.0 (3.0-5.1) M=5.0 (0.0-6.0)	3.0 (2.4-3.5) M=3.0 (0.0-6.0)
Other education (Denominator is who had no schooling) Non-formal education Monastic institution None	N=36 0 2.8 (0.3-24.0) 97.2 (76.0-99.7)	N=11 0 0 100.0
Mean income in the last month (Nu)	N=97[§] 10204.1 (8970.2-11438.1) M=10000.0 (3000.0-14000.0)	N=40 6712.5 (5552.5-7872.5) M=8000.0 (1500.0-9500.0)
Proportion who usually live in this town	39.8 (30.3-50.1)	60.0 (22.1-88.8)
Duration of stay in this town (Denominator is who usually live in this town) Whole life ≤10 years >10 years	N=39 7.7 (3.6-15.6) 66.7 (43.8-83.7) 25.6 (12.0-46.5)	N=24 16.7 (2.9-57.0) 70.8 (41.6-89.2) 12.5 (5.2-27.1)
Duration of stay in this town (Denominator is who did not usually live in this town) (in days)	N=59 5.3 (2.8-7.8) M=3.0 (2.0-7.0)	N=15[§] 4.6 (0.0-14.2) M=2.0 (2.0-2.0)
Marital status Currently married Never married Formerly married (includes separated, widower and divorced)	 54.1 (45.5-62.4) 44.9 (37.2-52.9) 1.0 (0.2-5.1)	 50.0 (24.4-75.6) 50.0 (24.4-75.6) 0
Proportion of married truckers currently living with spouse (Denominator is who were currently married)	N=53 100.0	N=20 100.0
Proportion of truckers who had any regular sex partners other than spouse	23.5 (13.5-37.6)	17.5 (1.6-73.3)
Proportion of married truckers who had regular sex partners besides spouse (Denominator is who were currently married)	N=53 5.7 (1.9-15.6)	N=20 5.0 (0.3-44.4)
Proportion of currently unmarried truckers who had any regular sex partners (Denominator is who were never or formerly married)	N=45 44.4 (24.2-66.7)	N=20 30.0 (0.4-97.7)
Mean age at first sex (Denominator is who ever had sex and could recall)	N=87 17.1 (16.6-17.6) M=17.0 (16.0-19.0)	N=27[ϕ] 19.1 (18.3-20.0) M=19.0 (18.0-20.0)
Mean years in the profession as a trucker	5.6 (4.2-7.0) M=5.0 (2.0-8.0)	6.9 (3.8-9.9) M=4.0 (2.0-11.5)

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Type of truckers		
Drivers	69.4 (61.4-76.4)	65.0 (44.1-81.4)
Helpers	30.6 (23.6-38.6)	35.0 (18.6-55.9)

[§]One respondent said he did not know and was excluded in the analysis
[ϕ]Two respondents said they did not know and were excluded in the analysis
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Drug taking history (Table 92)

In the last year 13.3% and 7.5% of the truckers in Thimphu in Samdrup Jongkhar respectively said they had taken any drugs other than alcohol and cigarettes in the last year (Table 92). Only one individual in Thimphu and no one in Samdrup Jongkhar had injected drugs in the last year. The one trucker who had injected in the last year said he had shared his needle/syringe during the last injection.

Table 92: Drug taking history

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who took any drugs other than alcohol and cigarettes in the last year	13.3 (9.5-18.2)	7.5 (5.1-11.0)
Proportion of truckers who injected drugs in the last year	1.0 (0.2-5.1)	0
Route of taking drugs (Denominator is who took drugs in the last year)*	N=13	N=3
Oral	15.4 (3.8-45.3)	100.0
Inhaling/sniffing	92.3 (45.7-99.4)	0
Injection	7.7 (1.2-37.1)	0
Proportion of truckers who injected drugs in the last two months	1.0 (0.2-5.1)	0
Proportion of truckers who injected drugs in the last two months (Denominator is who injected drugs in the last year)	N=1 100.0	N=0 -
Proportion of truckers borrowed/lent used needle/syringe during the last injection in the last year (Denominator is who injected drugs in the last year)	N=1 100.0	N=0 -

*Multiple responses
Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Sexual behaviours (Tables 93 and 94)

Not all truckers had experienced sex; 88.8% and 72.5% said they had ever had sex in Thimphu and Samdrup Jongkhar respectively (Table 93). Among those who ever had sex, it was mostly with their spouse or regular sex partner. Buying sex in the last year was reported by a substantial proportion of truckers in both cities; 34.7% and 47.5% in Thimphu and Samdrup Jongkhar respectively. Group sex in the last year was reported by 5% of truckers in Samdrup Jongkhar and by none in Thimphu.

Table 93: Sex partners of the truckers

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who ever had sex	88.8 (80.3-93.9)	72.5 (53.3-85.9)
Proportion of truckers who had any type of penetrative sex in the last month	70.4 (59.0-79.7)	45.0 (28.9-62.2)
Proportion of truckers who had any type of penetrative sex in the last month (Denominator is who had sex in the last month)	N=69 100.0	N=18 100.0
Proportion of truckers who had sex with spouse or regular female sex partners in the last year	74.5 (62.2-83.8)	70.0 (57.2-80.3)
Proportion of truckers who had sex with spouse or regular female sex partners in the last year (Denominator is who ever had sex)	N=87 83.9 (70.8-91.8)	N=29 96.6 (66.3-99.8)
Proportion of truckers who had sex with spouse or regular female sex partners in the last month	68.4 (57.0-77.9)	42.5 (27.3-59.3)
Proportion of truckers who had sex with spouse or regular female sex partners in the last month (Denominator is who ever had sex and had spouse or regular female sex partners in the last year)	N=73 91.8 (84.5-95.8)	N=28 60.7 (42.6-76.3)
Proportion of truckers who had sex with commercial female partner in the last year	34.7 (23.3-48.2)	47.5 (9.7-88.4)
Proportion of truckers who had sex with commercial female partner in the last year (Denominator is who ever had sex)	N=87 39.1 (27.6-51.9)	N=29 65.5 (11.2-96.6)
Proportion of truckers who had sex with commercial female partner in the last month	7.1 (4.1-12.2)	15.0 (6.8-29.9)
Proportion of truckers who had sex with commercial female partner in the last month (Denominator is who ever had sex and had commercial female partner in the last year)	N=34 20.6 (10.1-37.5)	N=19 31.6 (2.3-90.0)
Proportion of truckers who had group sex in the last year	0	5.0 (1.4-16.1)
Proportion of truckers who had group sex in the last year (Denominator is who ever had sex)	N=87 0	N=29 6.9 (2.2-19.6)

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who had group sex in the last month	0	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Of those truckers who were sexually active, they had on average more than one regular partner in the last year. In addition, in both cities the mean number of commercial female partners was two in the last year (Table 94).

Table 94: Mean number of sex partners

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Mean number of regular female sex partners (including spouse) in the last year (Denominator is who had spouse or regular sex partners in the last year)	N=73 1.2 (1.0-1.3) M=1.0 (1.0-1.0)	N=28 1.5 (0.9-2.1) M=1.0 (1.0-2.0)
Mean number of commercial female sex partners in the last year (Denominator is who had commercial sex partners in the last year)	N=34 2.0 (1.6-2.4) M=2.0 (1.0-2.0)	N=19 2.0 (1.6-2.4) M=2.0 (1.0-2.0)
Mean number of commercial female partners in the last month (Denominator is who had commercial sex partners in the last month)	N=7 1.0 M=1.0 (1.0-1.0)	N=6 1.5 (0.4-2.6) M=1.5 (1.0-2.0)
Mean number of sex acts with spouse or regular female sex partners (who they live with) in the last month (Denominator is who had spouse or regular sex partners in the last month)	N=67 10.1 (8.1-12.1) M=10.0 (5.0-15.0)	N=17 9.4 (5.0-13.7) M=10.0 (6.0-12.0)
Mean number of sex acts with commercial female partners in the last month (Denominator is who had commercial sex partners in the last month)	N=7 1.6 (0.8-2.4) M=1.0 (1.0-3.0)	N=5* 2.2 (0.0-6.9) M=1.0 (1.0-2.0)
Mean number of partners during group sex in the last year (Denominator is who had group sex in the last year)	N=1 3.0 M=3.0 (3.0-3.0)	N=2 3.5 (0.0-9.9) M=3.5 (3.0-4.0)

* One respondent said he did not know and was excluded from the analysis

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Condom use with different types of sex partners (Table 95)

Between 65 and 72% of truckers had ever used condoms. Condom use in last sex with spouse or regular partner in the last year was reported by 53.4% of the truckers in Thimphu and 64.3% in Samdrup Jongkhar. The proportions using condoms in last sex with commercial female partners was higher with 97.1% in Thimphu and 84.2% in Samdrup Jongkhar. A similar pattern was observed with consistent condom use so that condoms were used more consistently with commercial female partners compared to non-commercial partners.

Table 95: Condom use with different type of sex partners

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Ever used condoms during any sexual intercourse (Denominator is who ever had sex)	N=87 72.4 (62.1-80.8)	N=29 65.5 (29.9-89.4)
Used condom during last sex in the last year (Denominator is who had sex in the last year and ever used condom)	N=63 79.4 (67.6-87.6)	N=19 73.7 (18.5-97.2)
Used condom during any type of penetrative sex in the last month (Denominator is who had any type of penetrative sex in the last month)	N=69 66.7 (54.5-77.0)	N=18 38.9 (14.5-70.5)
Condom use in the last anal/vaginal sex with spouse or regular female sex partners (Denominator is who had sex with spouse or regular female sex partners in the last year)	N=73 53.4 (40.0-66.3)	N=28 64.3 (30.7-88.0)
Condom use in the last anal/vaginal sex with commercial female sex partners (Denominator is who reported sex with commercial female sex partners in the last year)	N=34 97.1 (86.5-99.4)	N=19 84.2 (70.1-92.4)
Number of partners who used condom during the last group sex in the last year (Denominator is who had group sex in the last year) At least one No one	N=1 100.0 0.0	N=2 100.0 0.0
The respondent used condom in the last group sex in the last year (Denominator is who had group sex in the last year)	N=1 100.0	N=2 100.0
Frequency of condom use with spouse or regular female sex partners in the last year (Denominator is who had sex with spouse or regular female sex partners in the last year) Always Sometimes Never	N=73 38.4 (26.1-52.3) 30.1 (20.2-42.4) 31.5 (21.3-43.9)	N=28 21.4 (9.4-41.8) 42.9 (12.5-79.8) 35.7 (12.0-69.3)
Frequency of condom use with spouse or		

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
regular female sex partners in the last month (Denominator is who had sex with spouse or regular female sex partners in the last month)	N=67	N=17
Always	34.3 (22.8-48.0)	11.8 (3.7-31.5)
Sometimes	31.3 (20.3-45.0)	41.2 (12.2-78.0)
Never	34.3 (23.2-47.5)	47.1 (11.7-85.7)
Frequency of condom use with commercial female sex partners in the last year (Denominator is who had sex with commercial female sex partners in the last year)	N=34	N=19
Always	76.5 (58.6-88.2)	36.8 (6.0-84.1)
Sometimes	20.6 (10.6-36.2)	47.4 (9.8-88.2)
Never	2.9 (0.6-13.5)	15.8 (7.6-29.9)
Frequency of condom use with commercial female sex partners in the last month (Denominator is who had sex with commercial female sex partners in the last month)	N=7	N=6
Always	71.4 (10.3-98.2)	33.3 (7.2-76.3)
Sometimes	14.3 (1.3-68.5)	50.0 (7.7-92.3)
Never	14.3 (1.3-68.5)	16.7 (0.4-91.2)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge of ever use, access to and breaking of condoms (Table 96)

Among the truckers who ever had sex, all recognized a male condom and all knew where condoms were available (Table 96). The most common sources of condoms mentioned were medical shops and health facilities. A small number of truckers complained of condoms tearing during sex in the last month. Close to half the truckers in Thimphu and 17.5% in Samdrup Jongkhar said they had easy access to condoms.

Table 96: Knowledge of ever use, access to and breaking of condoms

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who recognized a male condom (Denominator is who ever had sex)	N=87 100.0	N=29.0 100.0
Proportion of truckers who knew where condoms are available (Denominator is who ever had sex and could identify a condom)	N=87 100.0	N=29 100.0

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Name of places or persons where condoms are available (Denominator is who knew the sources of condoms)*	N=87	N=29
General shop	13.8 (4.3-36.3)	0
Medical shop	71.3 (59.2-80.9)	96.6 (31.1-99.9)
Health facility (hospital/BHU/ORC/HISC/etc	97.7 (88.9-99.6)	100.0
Village health worker	9.2 (3.7-21.2)	13.8 (1.6-60.9)
Condom/Daechong Box	33.3 (23.0-45.5)	51.7 (20.7-81.5)
Bar/guest house/hotel	42.5 (29.8-56.3)	13.8 (4.4-35.9)
Friends	2.3 (0.7-6.9)	27.6 (15.5-44.2)
Proportion of truckers who bought condoms in the last month (Denominator is who had sex in the last month and used condom)	N=46 21.7 (12.7-34.6)	N=7 71.4 (25.8-94.7)
Sources of condoms in the last month (Denominator is who had sex in the last month and bought condoms in the last month)*	N=10	N=5
General shop	20.0 (5.0-54.1)	0
Medical shop	90.0 (31.7-99.4)	100.0
Health facility (hospital/BHU/ORC/HISC/etc	0	20.0 (1.0-86.3)
Condom/Daechong Box	0	20.0 (0.0-99.5)
Proportion of truckers who complained of condoms breaking during sex in the last month (Denominator is who had sex and used condom in the last month)	N=46 8.7 (3.5-20.2)	N=7 14.3 (0.6-81.7)
Proportion of truckers who reported easy access to condoms	46.9 (37.1-57.0)	17.5 (7.0-37.4)
Proportion of truckers who reported easy access to condoms (Denominator is who used condoms in the last month)	N=46 100.0	N=7 100.0

*Multiple responses
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Knowledge on the modes of HIV transmission and confidential HIV testing (Annexe 3)

Ninety six percent of the truckers in Thimphu and 72.5% in Samdrup Jongkhar had heard about HIV/AIDS (annexe 3). In both cities, most of the taxi drivers knew the correlation of HIV transmission with condom use and avoiding anal sex as well as the fact that HIV can be transmitted to a foetus or a baby from an infected mother. However, misconceptions were common as approximately half the truckers believed that a person can get HIV through mosquito bites. Comprehensive knowledge of HIV was computed as described earlier (section 3.1). Comprehensive knowledge on HIV/AIDS was found in

31.6% and 15.0% of truckers in Thimphu and in Samdrup Jongkhar respectively. Although fewer truckers in Thimphu than in Samdrup Jongkhar knew where to get a confidential test for HIV, similar proportions had ever been tested for HIV in the two cities (annexe 3). Most of the tests were conducted voluntarily and in both cities all who were tested received the results. However, in both cities most of the tests were conducted more than one year ago.

Knowledge regarding STIs, self-reported STIs and health care seeking behaviour (Table 97)

Most of the truckers in Samdrup Jongkhar (58.6%) did not know any symptoms of STI (Table 97). Only 1.1% of the truckers in Thimphu and 6.9% in Samdrup Jongkhar complained of any STI symptom in the last one year.

Table 97: Knowledge on STIs, self-reported STIs and health care seeking behaviour

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Knowledge on STI symptoms (Denominator is who ever had sex)*	N=87	N=29
Discharge from penis	40.2 (31.4-49.8)	41.1 (8.3-84.7)
Burning pain on urination	43.7 (31.7-56.4)	13.8 (1.7-59.2)
Genital ulcers/sores	26.4 (19.1-35.3)	3.4 (0.2-33.7)
Swellings in groin area	3.4 (0.7-16.2)	0
Anal discharge	2.3 (0.7-7.3)	0
Anal ulcer/sores	9.2 (3.8-20.7)	0
Others[§]	4.6 (1.7-11.7)	0
Do not know	21.8 (11.7-37.2)	58.6 (15.3-91.7)
Proportion of truckers who reported having urethral discharge in the last one year (Denominator is who ever had sex)	N=87 0	N=29 6.9 (2.2-19.6)
Proportion of truckers who reported having anal discharge in the last one year (Denominator is who ever had sex)	N=87 0	N=29 0
Proportion of truckers who reported having genital ulcer/sore in the last one year (Denominator is who ever had sex)	N=87 1.1 (0.1-10.1)	N=29 0
Proportion of truckers who reported at least one STI symptom in the last one year (Denominator is who ever had sex)	N=87 1.1 (0.1-10.1)	N=29 6.9 (2.2-19.6)
First choice of the last STI treatment in the last year (Denominator is who had sex and reported STI in the last year)	N=1	N=2
Health facility (hospital/BHU/ORC/HISC/etc)	100.0	50.0 (0.0-100.0)
Treatment from drug seller	0	0
Treatment from private doctor	0	0
Treatment from traditional healer	0	0
Advice/treatment from friends	0	0
Self treatment	0	0
Nothing	0	50.0 (0.0-100.0)

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who sought formal medical treatment[ϕ] as the first treatment option for the last STI in the last year (Denominator is who ever had sex and reported STI in the last year)	N=1 100.0	N=2 50.0 (0.0-100.0)
Mean waiting days before seeking treatment for the last STI in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N =1 14.0 M=14.0 (14.0-14.0)	N=1 1.0 M=1.0 (1.0-1.0)
Mean expenditure in last STI treatment in the last year (Denominator is who ever had sex, reported STI in the last year and sought treatment)	N=1 0 (free)	N=1 0 (free)

*Multiple responses
[§]Others stated weakness and fever
[ϕ]Formal medical treatment refers to treatment from health facilities and private doctors
Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)
Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Measures taken to avoid STIs and HIV (Table 98)

Most of the truckers in both cities used condoms always or some of the times to avoid STIs and HIV (Table 98). In Samdrup Jongkhar, 31% of the truckers said they did nothing to avoid STIs and HIV.

Table 98: Measures taken to avoid STIs and HIV

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Steps taken to avoid STIs (Denominator is who ever had sex)*	N=87	N=29
Do nothing	8.0 (4.9-12.9)	31.0 (13.5-56.5)
Wash genitalia with dettol/urine after sexual intercourse	2.3 (0.4-11.1)	6.9 (2.2-97.8)
Always use condom	43.7 (33.3-54.7)	24.1 (13.2-39.9)
Sometimes use condom	27.6 (20.0-36.8)	34.5 (16.0-59.3)
Others (sex with wife only)	26.4 (15.8-40.7)	3.4 (0.1-57.0)
Steps taken to avoid HIV* (Denominator is who had heard about HIV)	N=94	N=29
Do nothing	7.4 (3.3-16.1)	31.0 (10.3-63.8)
Never share needles/syringes	0	0
Wash genitalia with dettol/urine after sexual intercourse	2.1 (0.4-10.3)	6.9 (3.0-15.2)

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Always use condoms	39.4 (29.0-50.8)	24.1 (15.7-35.2)
Sometimes use condoms	25.5 (18.6-34.0)	34.5 (12.4-66.1)
Sex with wife only	24.5 (14.9-37.6)	3.4 (0.3-31.3)
Others (Never had sex)	8.5 (4.2-16.5)	0

*Multiple responses

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Self-perception of risk of HIV (Table 99)

The vast majority of trucker in both cities did not perceive themselves to be at risk of HIV.

Table 99: Self-Perception of risk of HIV

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who perceived themselves to be at risk of HIV		
Yes	2.0 (0.4-9.2)	12.5 (3.9-33.7)
No	96.9 (89.3-99.2)	80.0 (48.6-94.4)
Do not know	1.0 (0.1-8.7)	7.5 (1.5-30.8)
Level of HIV/AIDS risk perception (Denominator is who perceived themselves to be at risk of HIV)	N=2	N=5
High risk	0	20.0 (0.0-99.4)
Some risk	0	60.0 (1.7-99.2)
Little risk	100.0	20.0 (0.2-97.2)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Rationale for self-perception of extent of risk (Table 100)

The most common reasons for not perceiving themselves to be at risk of HIV were always or some time using condoms, having sex with clean/healthy partners or only with wives or regular partners. In Samdrup Jongkhar, more than one third said they were not at risk because they had never had sex.

Table 100: Rationale for self-perception of extent of risk

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Reasons for perceiving themselves to be at high or some risk (Denominator is who thought themselves to be at high or some risk)*	N=0	N=4
Frequently/ occasionally share injections	-	0
Sex with multiple partners	-	25.0 (0.4-96.1)
Never used condoms	-	50.0 (0.2-99.8)
Sometimes use condoms	-	25.0 (0.4-96.1)
Reasons for perceiving themselves at little risk (Denominator is who perceived themselves at little risk)*	N=2	N=1
Never/ occasionally share injections	0	0
Always use condoms	0	0
Sometimes use of condoms	100.0	100.0
Have sex with clean/healthy partners	0	0
Reasons for perceiving themselves to be at no risk (Denominator is who perceived themselves at no risk)*	N=95	N=32
Never/ occasionally share injections	0	0
Always use condoms	40.0 (29.2-51.9)	18.8 (4.9-68.5)
Sometimes use condoms	23.2 (16.2-31.9)	25.0 (4.9-68.5)
Have sex with clean/healthy partners	23.2 (15.3-33.4)	21.9 (2.8-73.3)
Sex with wife/regular sex partner only	24.2 (16.4-34.3)	0
Never had commercial sex	0	34.4 (18.9-54.0)
Never had sex	10.5 (5.4-19.5)	0
Tested for HIV	4.2 (1.6-10.4)	9.4 (1.1-47.9)

*Multiple responses

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Exposure to interventions (Table 101)

Only 19.4% of the truckers in Thimphu and just five truckers (12.5%) in Samdrup Jongkhar had participated in any HIV/AIDS/STI intervention Programme in the last year (Table 101). No one in Thimphu and only two of five in Samdrup Jongkhar who had been exposed to any HIV/STI Programme in the last year said that the Programme had helped in changing their risk behaviour.

Table 101: Exposure to interventions

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who participated in any HIV/AIDS/STI intervention Programme in the last year	19.4 (10.6-32.9)	12.5 (1.3-60.7)
Type of interventions exposed to in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)*	N=19	N=5
Multi sectoral task force (MSTF)	5.3 (0.6-34.3)	60.0 (0.0-100.0)
Road Transport and Safety Association (RSTA) sessions	84.2 (56.3-95.7)	40.0 (0.0-100.0)
Workshop/meeting at the health facilities	5.3 (0.5-37.3)	0
Cannot remember	5.3 (0.5-37.3)	0
Average time since the last participation in any HIV/AIDS/STI intervention in the last year (in months) (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=19 7.4 (5.9-9.0) M=7.0 (6.0-9.0)	N=5 9.4 (2.3-16.5) M=10.0 (8.0-10.0)
Proportion of truckers participated in any HIV/AIDS/STI intervention Programme in the last month	0	0
Proportion of truckers participated in any HIV/AIDS/STI intervention Programme in the last six months	7.1 (3.6-13.8)	0
Mean number of times participated in any HIV/AIDS/STI intervention in the last year (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)	N=19 1.2 (0.8-1.6) M=1.0 (1.0-1.0)	N=5 1.0 M=1.0 (1.0-1.0)
Benefits from the session (Denominator is who participated in any HIV/AIDS/STI intervention in the last year)*	N=19	N=5
Helped in changing behaviour	0	40.0 (0.0-100.0)
Gave useful information but did not affect behaviour	0	0
Learnt about HIV/AIDS/STD/safe sex and correct use of condom	100.0	60.0 (0.0-100.0)
Information was not easily understandable	0	20.0 (0.0-99.3)
Was not relevant to our needs	0	0

*Multiple responses

Note: M refers to median and the figures within brackets refer to inter quartile range (IQR)

Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

Travelling abroad and sexual behaviour while abroad (Table 102, annexe 4)
Many truckers had travelled abroad in the last year; 62.2% and 42.5% in Thimphu and Samdrup Jongkhar respectively and all had been to India (Table 102). Twenty three percent of the truckers in Thimphu and 41.2% in Samdrup Jongkhar bought sex from females while abroad in the last year. Among those who bought sex from females while abroad, everyone in Thimphu and 85.7% in Samdrup Jongkhar used a condom in the last commercial sex.

Table 102: Travelling abroad and sexual behaviour while abroad

Indicators % (95 % CI)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion of truckers who visited another country in the last year	62.2 (50.5-72.7)	42.5 (26.4-60.4)
Proportion of truckers who bought sex while abroad in the last year (Denominator is who travelled abroad in the last year)	N=61 23.0 (12.0-39.4)	N=17 41.2 (4.5-91.2)
Proportion of truckers who used condom during last sex while abroad in the last year (Denominator is who travelled abroad and bought sex in the last year)	N=14 100.0	N=7 85.7 (0.6-100.0)

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

4. SUMMARY OF FINDINGS AND DISCUSSION

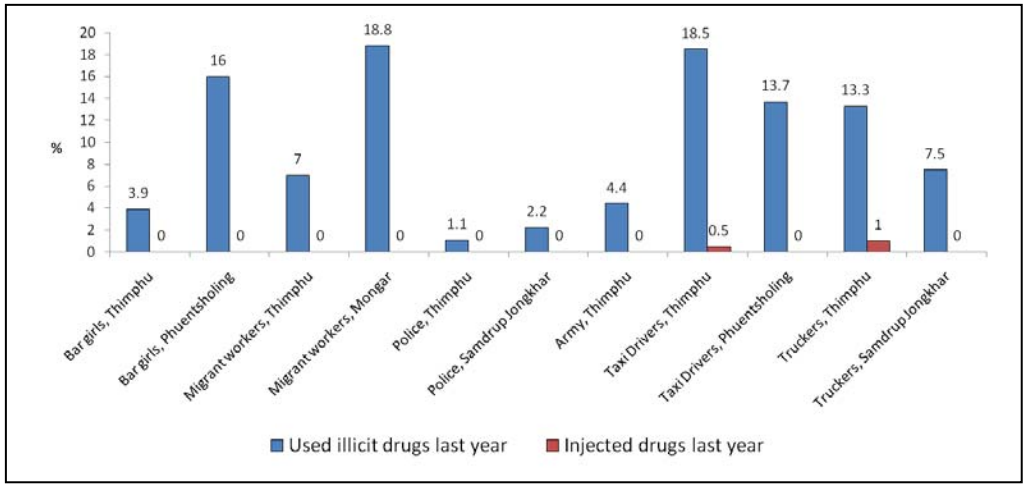
This first BSS for HIV in Bhutan was conducted among population groups considered to be most at risk for HIV in Bhutan. The design was based on information gathered through anecdotes, opinions of personnel in the MOH, previous surveys conducted [4, 6] followed by a pre-surveillance assessment [5]. The RSRA conducted on drug users in Thimphu [6] was a useful source in selecting sites for enrolment of drug users. Moreover, as it showed that the numbers of IDUs was small, in the BSS drug users included all those who used illicit drugs and was not just restricted to IDUs. Information from other sources [4] suggested that sex was sold by women through informal settings such as bars – an organised female sex trade was not present and for this reason bar girls were selected as a proxy for female sex workers. Among the traditional MARPs, MSM were not included as there was no available information on them. As clients of sex workers are considered to be key drivers of the HIV epidemic in Asia [11] and as men who are on the move, often living away from their families, are likely customers of commercial sex, several groups of such mobile men were selected to represent this population group. In addition, as the neighbouring countries, India and Nepal both have higher rates of HIV and as migrant workers from these countries work in Bhutan it is likely that they also engage in sex with Bhutanese women either commercially or non-commercially while working in Bhutan. The pre-surveillance assessment revealed that bar girls, drug users,

non-Bhutanese migrants, RBP, RBA and mobile men including taxi drivers and truckers were vulnerable to HIV and could be accessed for BSS.

A major limitation of the BSS conducted was the small numbers available for some of the groups particularly for drug users and bar girls. For these groups a take all approach was utilised, however, it is likely that the more hidden members of these MARPs were not included especially in the case of drug users. That many drug users who were approached for interviewing by the BSS refused to participate shows their lack of trust and fear of identifying themselves. Although MARPs are stigmatised in all of South Asia, the small population size in Bhutan does not allow for anonymity which possibly enhances the fear of revelation and the associated stigma. It is likely for this reason that there is so little information available on MSM. Another limitation was the finding in taxi drivers and RBP in that there were significant differences among those who completed their interviews and those who either did not complete or refused to participate. Thus, these samples do not represent the entire population but are biased towards those who are either more educated or younger. Despite these limitations, this first BSS among MARPs in Bhutan has revealed some important findings based on which the country can move forward with interventions.

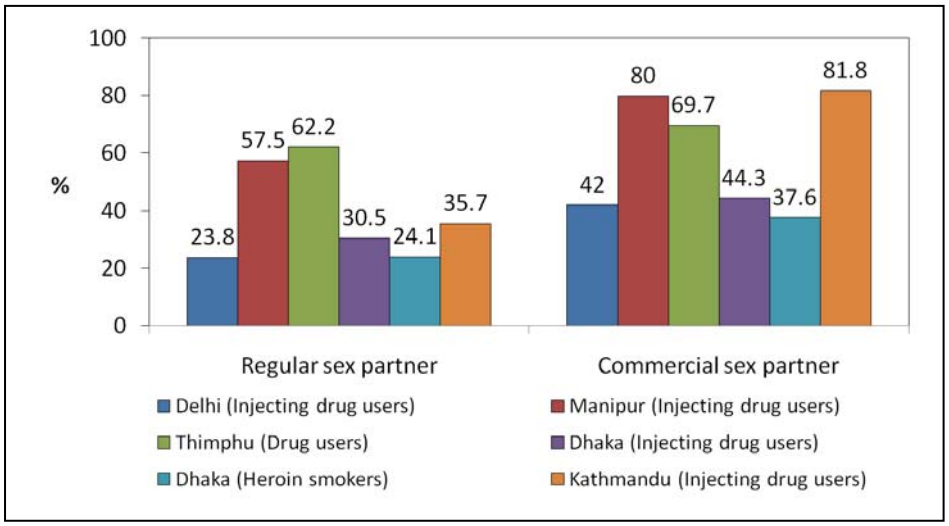
Just over 100 drug users in Thimphu could be reached and not surprisingly very few were females, which is similar to data from other countries [12-14]. As experienced in the earlier RSRA [6] here too the number of IDUs reached was small and only two shared needles/syringes which is generally considered to be the main risk for HIV transmission in this MARP [15]. Among all the population groups sampled (other than drug users), although illicit drug use was mentioned by all groups, injecting was only mentioned by a few taxi drivers and truckers in Thimphu (Fig 1). In addition, a small but significant population of bar girls said they knew that their sex partners had injected drugs. It is to be noted that among the drug users sampled from Thimphu none said they were working as taxi drivers or truckers suggesting that there are people in the community who use illicit drugs and who may not be labelled as drug users but who nonetheless need services related to their drug use.

Figure 1. Illicit drug use in the last year among the MARPs sampled (other than drug users)



Therefore, in Bhutan IDUs are not large enough in number to be considered as a separate MARP. Irrespective of whether drug users were IDUs or not, the main risk documented in drug users in Thimphu was risky sexual behaviours. However, approximately 14% said they had never had sex which is in contrast to other countries such as Bangladesh where almost all have had sex [16]. Among the remaining, drug users were sexually active; they had regular sex partners as well as commercial sex, especially the men who bought sex. However, if the prevalence of risk behaviours in the different countries in South Asia [16-18] are compared (Fig 2), more drug users in Bhutan appear to be practicing safer sex than those in Delhi and Dhaka. For female drug users, exchanging sex for money or gifts was also not as common as in other countries in the region; in Bangladesh two thirds of female drug users sell sex [12] in contrast to 15.4% documented in Thimphu.

Figure 2: Condom use during last sex by drug users in different cities of South Asia



Sources: Bangladesh: BSS 2006-07 [16] India: www.aidsdatahub.org [17]; Nepal: UNGASS report 2008 [18]

The high injection and HIV prevalence among injectors in neighbouring India and Nepal [19], makes Bhutan vulnerable. And although compared to some of its neighbouring countries, drug users in Bhutan are practicing less risky behaviours, unlike those countries Bhutan does not have harm reduction services in place and only limited drug treatment services are available. It is well known that such services that are geared to the needs of drug users are effective in delaying the epidemic [11]. However, Bhutan has initiated efforts on this front recently and one drug treatment cum rehabilitation centre for drug and alcohol dependence has been opened which is a combined effort of a national hospital and NGOs. In addition, three drop in centres in three cities are being run by NGOs to provide information, condoms and referrals for VCT, STI treatment, counselling, etc. through outreach by ex drug users. There is now close collaboration between the BNCA and MOH, RGoB as well as NGOs and UN organisations which is essential for a coordinated response.

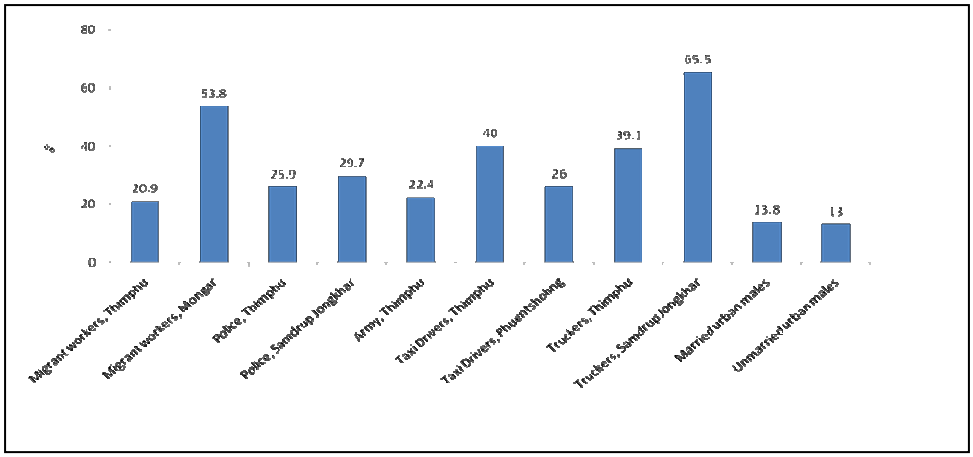
The total numbers of bar girls interviewed in the two cities were very few (N=102) especially in Phuentsholing but it was considered important to include Phuentsholing as

prior information suggested that there was a link between this city and India. This was confirmed in the BSS as close to half of the bar girls interviewed in Phuentsholing were Indian. Although bar girls were selected as a proxy for female sex workers, this was not correct in most cases. Not all bar girls interviewed had experienced sex– 24 had not, and of the remaining only 78 had sex in the last month and half to one third sold sex in the last month. The total number of bar girls who could be classified as female sex workers were very few (N=38). The mean numbers of clients in a month was 2.2 in Thimphu and one in Phuentsholing which is very low compared to female sex workers operating through hotels in Bangladesh where weekly numbers ranged from 19-61 [16]. In a country where casual sex was reported very commonly by men and also by 10.6% of women in urban areas [3], these numbers do not suggest that sex workers in Bhutan, at least those working through bars, are very active. However, even though the numbers are small what has become apparent from this BSS is that many did not have easy access to condoms, few had comprehensive knowledge on HIV/AIDS, many did not know any symptom of STIs and few had any exposure to HIV/AIDS/STI intervention Programmes.

Given these low numbers of sex workers and clients per sex worker, it may not be worthwhile considering bar girls as a separate MARP. However, given their lack of knowledge and access to services, it is important that these needs are met. Thus available STI services must become user friendly for bar girls so that they are not stigmatised, condoms must be made readily available in bars such that the girls may access them in a confidential manner and regular awareness Programmes should include bar girls without stigmatizing sex workers.

Several groups of men, some more mobile than others, were sampled as potential clients of female sex workers and also as regular sex partners of non marital partners. The general population survey conducted in 2006 among urban married and unmarried males showed that many practiced risky sexual behaviours [3]. However, mobile men in the different population groups sampled in the BSS appeared to be practicing riskier sex in terms of buying sex from female sex workers in the last year (Fig. 3), mean number of sex partners (Fig 4) and condom use in the last sex (Fig 5). Thus mobile men may indeed be categorised as MARPs in Bhutan.

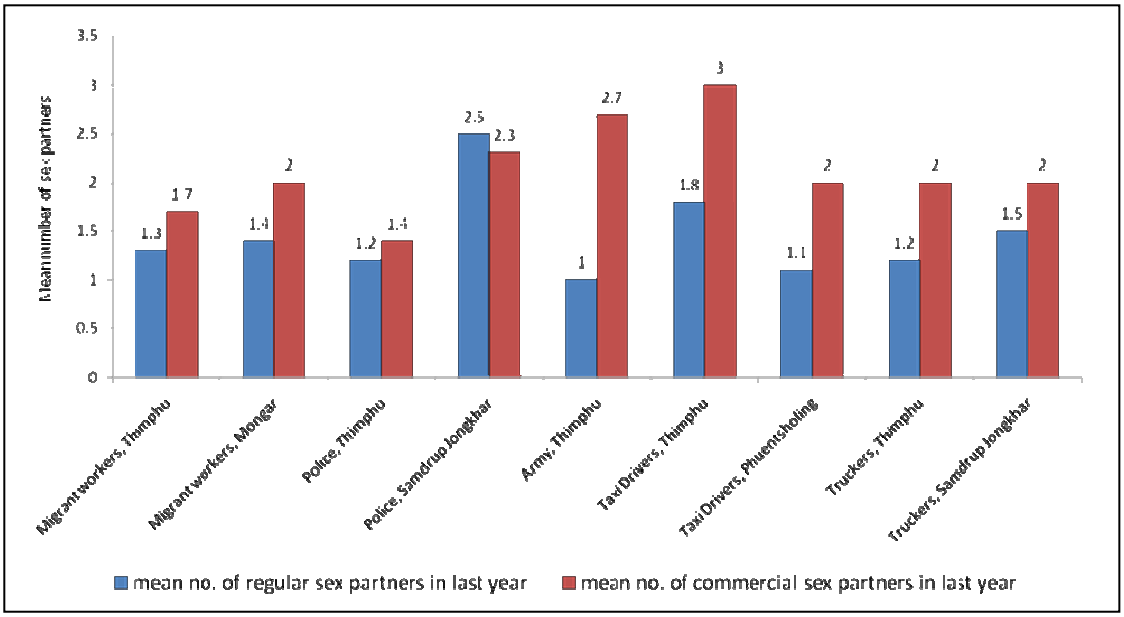
Figure 3. Proportions who had commercial sex in the last year



Source of data for urban married and unmarried males: General population survey 2006, MOH, RGoB [3]

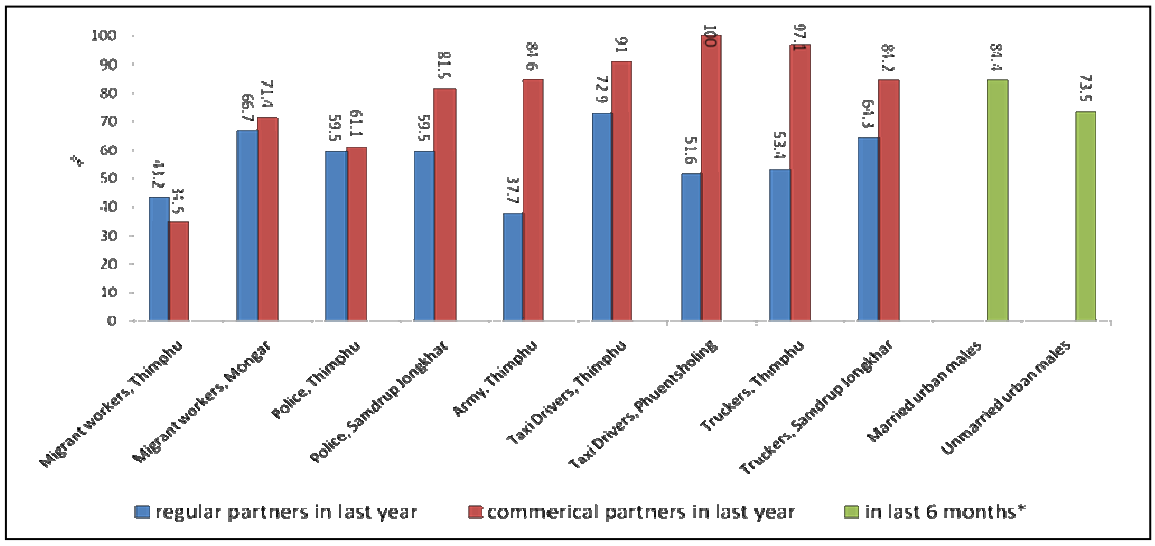
Having multiple sex partners can increase the risk of becoming infected with HIV and STIs. The general population survey of 2006 in Bhutan [3] showed that married urban males had a mean number of three extramarital sex partners in the last six months while unmarried males had 2.4 sex partners on average in the last six months. Although this is not a direct match with the questions asked of the different groups of men in BSS, nonetheless it does provide some idea in terms of how these mobile men compare with the general population males. Fig 4 shows that in the last year all groups of mobile men had multiple sex partners, particularly commercial sex partners. Highest numbers were reported by RBA and taxi drivers in Thimphu.

Figure 4. Mean number of sex partners in the last year



Among the mobile men sampled in BSS, fewer men reported condom use in last sex with regular sex partners in all groups compared to the general population of adult males (Fig 5). In commercial sex this was also comparatively low in migrant workers and police in Thimphu. Thus it appears that these men who are more likely to buy sex are also less likely to use condoms which put them at greater risk than the general population of adult urban males.

Figure 5. Condom use in last sex

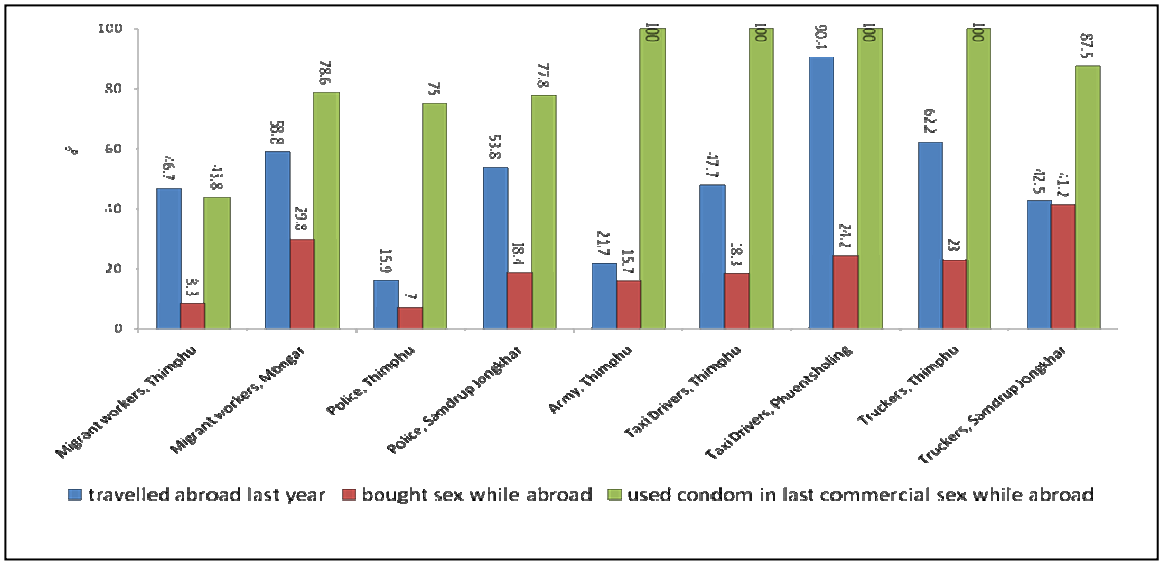


*For married urban males the question was for extramarital sex partners only and for unmarried males, it was for any sex partner [3]

With this present scenario of mobile men, it is essential that they are targeted with prevention Programmes for both STIs and HIV. Non Bhutanese migrant workers are especially vulnerable because being non nationals although theoretically they have access to the same services available to Bhutanese, but it is believed that in reality they do not access those services. If this is indeed correct, the reasons why this occurs needs to be investigated and services need to be made available to them based on their needs.

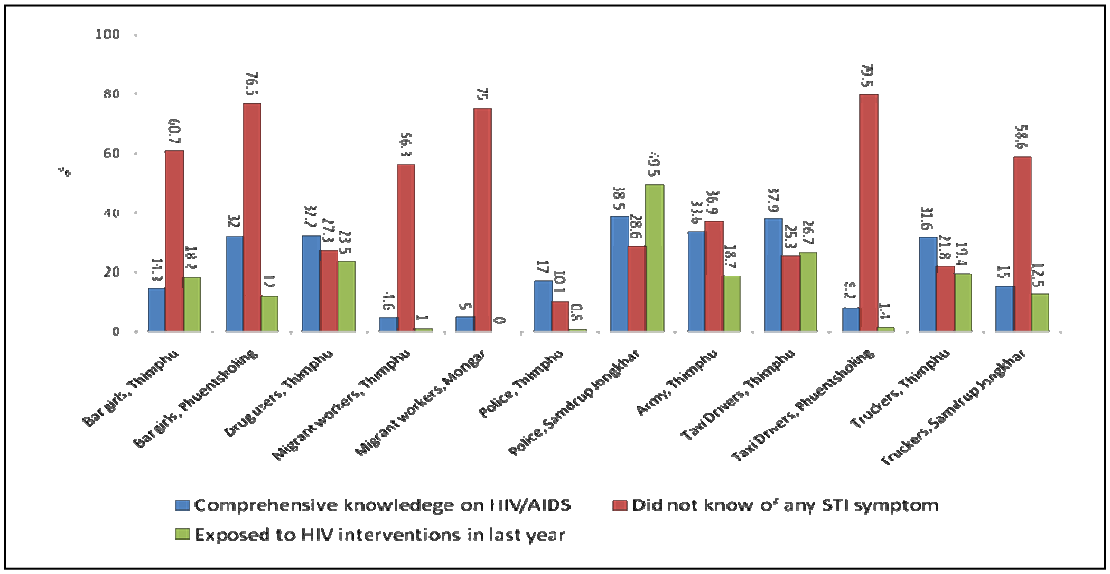
Another source of vulnerability is travelling to neighbouring countries where HIV prevalence is higher along with the practice of risky behaviours while abroad. In many countries in South Asia HIV rates have risen because of travel to another area of higher HIV prevalence such as in Nepal where Nepalese sex workers working in Mumbai returned home with HIV which then spread to their sex partners in their home village in Nepal [20]. Varying proportions of men sampled from the different groups travelled abroad mainly to India where some bought sex (Fig 6). Condom use was however highly prevalent during such sex acts while abroad in many of the groups of men. If condoms are indeed used regularly, the risk is considerably reduced but where such use is low, efforts have to be enhanced to increase condom use such as among migrant workers in Thimphu. The latter have an overall low prevalence of condom use irrespective of the type of sex partner and the country where sex is being bought. It is important that when providing information for raising awareness, that information is relevant. MARPs need to be informed about the prevalence of HIV in neighbouring countries and the need to protect themselves while travelling as well as the means for doing so, i.e. having condoms, knowing where to go for STI treatment.

Figure 6. Travelling abroad and risk behaviours while abroad



There is a direct correlation between knowledge and adoption of safe behaviours [21]. Knowledge on HIV and AIDs and access to intervention Programmes was variable for the different groups of MARPs being lowest among non-Bhutanese migrant workers and taxi drivers in Phuentsholing (Fig 7). The level of knowledge varied among population groups between cities so that in Thimphu fewer bar girls were knowledgeable compared to truckers, taxi drivers or drug users. In contrast, in Phuentsholing bar girls had better knowledge than taxi drivers. Thus it appears that Programmes being conducted in the different cities are not uniformly planned and are probably being driven by factors that are not grounded in evidence.

Figure 7. Knowledge parameters and exposure to interventions



5. RECOMMENDATIONS

Considering the data generated through this BSS specific recommendations can be made under two broad categories:

A. Strengthening surveillance (BSS and biological), continuing other efforts at gathering evidence, adapting sampling methodologies, and increasing capacity to institutionalise data gathering, analysis and triangulation

B. Modifying Programmes based on current evidence among MARPs

A. Strengthening surveillance (BSS and biological), continuing other efforts at gathering evidence, adapting sampling methodologies, and increasing capacity to institutionalise data gathering, analysis and triangulation:

This BSS was the first attempt at gathering data among MARPs using a systematic sampling method. Several lessons were learnt from this exercise – not all groups sampled may be included as MARPs (e.g. bar girls) and two of the groups (sex workers and drug users) are hidden so that a random or representative sample may not be possible at this stage. In such situations, other methods such as Respondent Driven Sampling (RDS) [22] may be used which may allow access to the more hidden individuals within these groups. However, RDS is technically challenging and may not be feasible at this point in Bhutan. Therefore, at present it is debatable whether the sampling methodology tried during this BSS should be continued in drug users or whether the country should rely on regular RSRAs which are less scientifically rigorous but can provide relevant information. If RSRAs are continued for the next few years, the country will need to assess over time with new information available, whether it can adopt a random sampling procedure in drug users. For the groups of mobile men, they should be accepted as MARPs and along with BSS, biological surveillance needs to be instituted in these groups without which the epidemic scenario will be incomplete. However, given the sampling bias noted among taxi drivers and RBP, future sampling methodologies will need to take these differences into account and adjust sample sizes accordingly and at the same time enhance capacity of interviewers so that they are more adept at building rapport.

It is important to conduct surveillance on a regular basis, perhaps every two- three years, in order to obtain trends. Trends are necessary to monitor the epidemic and the national response.

A limitation of this BSS was not having adequate sample sizes for most MARPs. A possibility is having a national sample for some groups' especially mobile men.

An important MARP missing from this BSS was MSM. MSM have been a much neglected MARP in Asia and the next wave of the HIV epidemic may likely be in MSM [11]. There is urgent need to conduct research or assessments to determine the presence of MSM, their risk behaviours as well as vulnerabilities and how to reach them without driving them underground.

In addition to conducting surveillance among agreed upon MARPs, it may be worthwhile including HIV/STI risk behaviour questions in demographic health surveys when they are conducted in Bhutan. This is because in Bhutan compared to neighbouring countries, the risk behaviours in the general population are relatively high [3] while being relatively low in MARPs.

A universal drive at present is to know your epidemic, know your response [23]. Therefore, surveys and research studies need to be conducted in different population groups and geographical areas, and data from different sources need to be triangulated in order to better understand the epidemic scenario in Bhutan. In order to do this, capacities within country have to be increased such that surveillance can be institutionalised. Also, the ability to triangulate data needs to be gradually developed.

Therefore, specific recommendations include:

i. Establish surveillance, both behavioural and biological, among MARPs. Agreement on MARPs, the geographical areas to be covered and the regularity at which surveillance will be conducted may be decided upon through consensus and will depend on available information from different sources.
ii. Drop bar girls from BSS.
iii. Consider a national sample for some groups especially mobile men.
iv. Obtain information on groups where no or little information is available such as female sex workers and MSM.
v. When possible try other methods of sampling for some of the populations such as sex workers, drug users and MSM.
vi. Institutionalise surveillance, promote other research, and consider adding risk behaviour questions to demographic health surveys. Enhance capacities to conduct these and to triangulate different sources of data.

B. Modifying Programmes based on current evidence among MARPs

The evidence generated from BSS shows that some strategies can be adopted to provide services for the MARPs sampled. Each of the MARPs are discussed separately below:

a) Bar girls-

Only 38 of the 102 bar girls interviewed could be classified as female sex workers. Although this data suggests that bar girls not be used to represent female sex workers, it is clear that bar girls do require HIV/STI prevention and treatment services. Available STI services need to become user friendly for bar girls, condoms must be made readily available in bars such that the girls may access them in a confidential manner and regular awareness programmes that are conducted should include bar girls without stigmatizing sex workers.

b) Drug users-

Although the numbers of drug users are not large, and that of injectors even smaller (17 out of 115), their practice of risky sexual behaviour, with one third of males buying sex and 15.4% of the female drug users selling sex, makes them especially vulnerable to HIV. This vulnerability is enhanced by the fact that only 32.2% of the drug users had comprehensive knowledge on HIV/AIDS. Fortunately, many new programmes have been undertaken for drug users through BNCA in collaboration with MoH, NGOs and UN organisations. These commendable initiatives need to be continued, strengthened and expanded in an evidence based manner.

c) Non-Bhutanese migrant workers-

The data presented here show that migrant workers are at risk of HIV; they have multiple sex partners with mean numbers of commercial sex partners ranging from 1.7 - 2 in the last year and condom use in the last commercial sex varied from 34.5%-71.4%. Only about 5% had comprehensive knowledge on HIV/AIDS. These groups of men are very vulnerable and require services on HIV/STI prevention ranging from raising awareness, having easy access to condoms and STI treatment. In order to enhance service uptake by these men, either special services need to be considered or setting up systems for motivating them to use existing systems. A possible way may be by using peers. Being migrant workers, there needs to be a concerted effort to alleviate fears of punitive action in case of HIV infection.

d) RBP and RBA-

There is variation in terms of risk behaviours, level of knowledge and exposure to intervention programmes among these groups of men. Approximately one fifth bought sex in the last year, comprehensive knowledge ranged from 17.0% in RBP to 33.6% in RBA in Thimphu. Only 0.8% of RBP participated in any HIV/AIDS/STI intervention programme compared to 18.7% among RBA in Thimphu. A uniform plan for training and providing services to these uniform men is required.

e) Taxi drivers and truckers-

Because of their high mobility and consequent risk taking behaviours, taxi drivers and truckers are considered to be at risk of HIV. Taking illicit drugs was reported by 13.7%-18.5% of taxi drivers and 7.5%-13.3% of truckers in the last year, and a taxi driver and a trucker also injected drugs. Comprehensive knowledge on HIV/AIDS was low; 8.2%-37.9% among taxi drivers and 15.0%-31.6% among truckers. A high proportion of the taxi drivers and truckers travelled to another country (47.7%-90.4% taxi drivers and 42.5%-62.2% truckers) in the last year and also had commercial sex while abroad. Therefore for these very mobile groups of men it is imperative that in addition to planned training and services as suggested above, involving them in these activities may make those services more appropriate.

In addition, as many of the mobile groups of men are married, a system of ensuring that their wives are also knowledgeable about HIV/STI and have easy access to services would protect them from future infections.

6. REFERENCES:

1. Offices of the Census Commissioner, *Fact Sheet: Population and Housing Census of Bhutan 2005*. 2005, Royal Government of Bhutan: Thimphu.
2. Ministry of Health, *STI & HIV/AIDS reports of the country* 2008, Royal Government of Bhutan: Thimphu.
3. Ministry of Health, *General population survey 2006*. 2008, Royal Government of Bhutan: Thimphu.
4. Rabten Associates, *Assessment of Risk and Vulnerability to STIs and HIV/AIDS in Bhutan*. 2004.
5. Ministry of Health, *Report on the pre-surveillance assessment*. 2007, Royal Government of Bhutan: Thimphu.
6. UNODC-ROSA, *Rapid situation and response assessment of drugs and HIV in Bangladesh, Bhutan, India, Nepal and Sri Lanka*. 2006: New Delhi.
7. UNODC-ROSA, *Drug use situation and responses in schools and communities: A rapid Assessment in Phuentsholing, Bhutan, 2008*. 2009.
8. BNCA. Personal communication. 2009.
9. UNAIDS/WHO, *Guidelines for Second Generation HIV Surveillance*. 2000, UNAIDS/WHO: Geneva.
10. Lemeshow, S., et al., *Adequacy of Sample Size in Health Studies* 1992: World Health Organization.
11. Commission on AIDS in Asia, *Redefining AIDS in Asia: crafting an effective response*. 2008, Oxford University Press: New Delhi.
12. Azim, T., et al., *Vulnerability to HIV infection among sex worker and non-sex worker female injecting drug users in Dhaka, Bangladesh: evidence from the baseline survey of a cohort study.* Harm Reduction Journal, 2006. **3**(33).
13. Substance Abuse and Mental Health Services Administration, *Summary of findings from the 2000 National Household Survey on Drug Abuse*, in *NHDHA Series H 13*. 2001: Rockville, Maryland.
14. Aceijas, C., et al., *Estimates of injecting drug users at the national and local level in developing and transitional countries, and gender and age distribution.* Sex Transm Infect, June 2006. **82(Suppl 3)**: p. iii10–iii17.
15. Gowing, L., et al., *Substitution treatment of injection opioid users for prevention of HIV infection*. 2008, The Cochrane Library.
16. Govt. of Bangladesh, *Technical Report on Behavioural Surveillance Survey 2006-2007*. 2009, Directorate General of Health Services, Ministry of Health and Family Welfare: Dhaka.
17. www.aidsdatahub.org. Accessed on 1st October 2009.
18. Govt. of Nepal, *UNGASS Country Progress Report Nepal*. 2008, Ministry of Health and Population: Nepal.
19. Mathers BM, et al., *Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review.* Lancet, November 2008. **15;372 (9651)**: p. 1709-10.
20. NewERA/SACTS/FHI, *HIV/STD Prevalence and Risk Factors among Migrant and Non-Migrant Males of Achham District in Far-Western Nepal*. 2002, Family Health International: Kathmandu, Nepal. p. 45p.

21. Azim, T., et al., *20 Years of HIV in Bangladesh, Experience and Way Forward: A Consolidated Review of Existing Information*. March, 2009, ICDDR,B, UNAIDS, World Bank (Unpublished): Dhaka.
22. Heckathorn D, *Respondent driven sampling II: deriving valid population estimates from Chain-Referral samples of hidden populations.* Social Problems., 2002. **49**(1): p. 11-34.
23. Wilson, D. and D.T. Halperin, *"Know your epidemic, know your response": a useful approach, if we get it right.* Lancet, August 2008. **372**(9637): p. 423 - 426.

ANNEXE

Annexe 1: Name of the town/district where the respondent lived before moving to the town/place of interview

Drug users Thimphu N=67	Bar girls Thimphu N=71	Bar girls Phuentsholing N=21	Non-Bhutanese migrant workers Thimphu N=411	Non-Bhutanese migrant workers Mongar N=80	RBA Thimphu N=411
Name of town/village (Number):	*Name of town/village (Number):*	*Name of town/village (Number):*	*Name of town/village (Number):*	*Name of town/village (Number):*	*Name of town/village (Number):*
Chimakothi (2) Khebisa (2) Doti (1) Tseza (1) Ura (1) Bajothang (1) Phuentsholing (11) Paro (7) Wangdue (5) Khuruthang (1) Dagapela (1) Samtse (2) Jamkhar (1) Shengana (1) Mongar (3) Samdrup Jongkhar (2) Gedu (1) Phangyul (1) Pemagatshe (1) Tsirang (1) Punakha (1)	Chapcha (1) Chasiakha (1) Genekha (1) Khuruthang (2) Shaba (2) Warmrong (2) Talo (1) Phontsholing (3) Rangjung (2) Thinleygang (1) Ramjar (2) Gedu (2) Samtengang (1) Bidung (1) Kengkhar (1) Phobjikha (1) Punakha (6) Paro (6) Haa (2)	Gedu (1) Gelephu (1) Thimphu (5) Trashipu (1) Dorokha (1) Kalimgpong (1) S /jongkhar (1) Darjeeling (1) Gao bari (1) Jaigaon (5) Cooch Bihar (2) Sikkim (1)	Cooch Bihar (180) Jalpaiguri (198) North Sikkim (5) Nadeya (3) Hariyana (1) Kolkata (7) Kokrajhar (1) Darjeeling (8) Tawang (1) Chapra (1) Delhi (2) Patna (2) Mumbai (1)	Cooch Bihar (37) Jalpaiguri (22) North Sikkim (3) Nadeya (5) Hariyana (2) Kolkata (1) Kokrajhar (2) Darjeeling (3) Tawang (2) Chapra (1) Delhi (1) Patna (1)	Dewathang (41) Kalikhola (3) Tencholing (18) Sipsu (15) Bartsham (1) Yongla (1) Dujigang (1) Nanglam (6) Dagapela (8) Khasadrapchu (1) Khebesa (1) Bonday (1) Phuentsholing (4) Trashigatshel (1) Yangphula (8) Samtengang (1) Ura (1) Damthang (1) Paro (17) Pemagatshel (6) Trashigang (24)

Drug users Thimphu N=67	Bar girls Thimphu N=71	Bar girls Phuentsholing N=21	Non-Bhutanese migrant workers Thimphu N=411	Non-Bhutanese migrant workers Mongar N=80	RBA Thimphu N=411
Radhi (1) Wangkha (1) Thimphu (2) Trashigang (2) Haa (2) Maychitar (1) Gelephu (4) Lobesa (1) Tsakaling (1) Damphu (1) Dagana (1) Trongsa (1) Zhemgang (1) Sarpang (1) *Name of districts (Number):* Thimphu (3) Paro (8) Haa (2) Punakha (3) Wangdue (7) Trongsa (1) Bumthang (1) Mongar (4) Trashiyangtse (1) Trashigang (3)	Trongsa (3) Gelephu (5) Chukha (5) Trashiyangtse (4) Mongar (2) Trashigang (6) Wangdue (5) Samtse (1) Dagana (2) *Name of districts (Number):* Thimphu (1) Paro (8) Haa (2) Punakha (9) wangdue (8) Trongsa (3) Mongar (3) Trashiyangtse (6) Trashigang (11)	*Name of districts (Number):* Thimphu (5) Chukha (1) Samtse (1) S /jongkhar (1) Sarpang /gelephu (2) West Bengal (8) Sikkim (1) Darjeng (2)			Lhuntse (5) Mongar (7) Haa (5) Punakha (3) Wangdue (81) Trongsa (1) Bumthang (2) Trashiyangtse (6) S /jongkhar (28) Gelephu (38) Zhemgang (7) Trisang (2) Dagana (5) Chhukha (11) Samtse (43) *Name of districts (Number):* Thimphu (1) Paro (18) Haa (6) Punakha (3) Wangduephodrang (100) Trongsa (1) Bumthang (3) Luentse (5) Mongar (7) Trashiyangtse (6)

Drug users Thimphu N=67	Bar girls Thimphu N=71	Bar girls Phuentsholing N=21	Non-Bhutanese migrant workers Thimphu N=411	Non-Bhutanese migrant workers Mongar N=80	RBA Thimphu N=411
Samdrup Jongkhar (2) Sarpang (6) Zhemgang (1) Tsirang (2) Dagana (5) Chukha (15) Samtse (2) Pemagatshel (1)	Sarpang (5) Dagana (2) Chukha (12) Samtse (1)				Trashigang (33) S/jongkhar (74) Sarpang/Gelephu (41) Zhemgang (7) Trisang (2) Dagana (15) Chhukha (16) Samtse (58) Pemagatshel (8)

Annexe 1: Name of the town/district where the respondent lived before moving to the town/place of interview (Continued)

RBP, Thimphu N=358	RBP, Samdrup Jongkhar N=90	Taxi Drivers Thimphu N=118	Taxi Drivers Phuentsholing N=41	Truckers Thimphu N=36	Truckers Samdrup Jongkhar N=20
Name of town/village (Number):	*Name of town/village (Number):*	*Name of town/village (Number):*	*Name of town/village (Number):*	*Name of town/village (Number):*	*Name of town/village (Number):*
Jigmeling (82) Phuentsholing (46) Gelephu (41) Manuthang (1) Mendegang (1) Pangbang (3) Sephu (3) Bumthang (4) Charkilo (7)	Jigmeling (10) Phuentsholing (5) Trashigang (1) Samtse (1) Lodarai (4) Trashigatshel (24) Chamgang (32) Phomzing (1)	Phuentsholing (10) Lobesa (1) Gelephu (4) Wangdue (8) Samtse (8) Thimphu (2) Pemagatshel (2) Dagana (3) Trashigang (24)	Gelephu (1) Wangdue (3) Samtse (1) Thimphu (14) Trashigang (4) Punakha (3) Paro (1) Mongar (2) Zhemgang (1)	Tendu (1) Chhuzomsa (2) Narmrong (2) Rangjung (2) Khuruthang (1) Bedung (1) Bajothang (2) Radi (1) Bartsham (1)	Tendu (1) Chhuzomsa (2) Narmrong (2) Rangjung (2) Khuruthang (1) Bedung (1) Bajothang (2) Radi (1) Bartsham (1)

RBP, Thimphu N=358	RBP, Samdrup Jongkhar N=90	Taxi Drivers Thimphu N=118	Taxi Drivers Phuentsholing N=41	Truckers Thimphu N=36	Truckers Samdrup Jongkhar N=20
Thimphu (4) Warmrong (2) Kalikhola (1) Kuruthang (7) Duksum (1) Pasakha (4) Chimakothi (9) Tingtibi (1) Trashigang (12) S/jongkhar (24) Gedu (9) T/yangtse (5) Trongsa (3) Tsirang (10) Samtse (11) Wangdue (5) Zhemgang (11) Dagana (4) Mongar (21) Lhuntshe (7) Lodarai (3) Paro (11) Haa (3) Pemagatshel (2)	Gugzor (1) Kuengarabten (1) Norbuling (1) Nganglam (1) Chhukha (1) Sarpang (2)	Punakha (10) Paro (10) Mongar (16) Zhemgang (2) Trongsa (3) Tsirang (6) Lhuntse (2) Haa (2) Trashiyangtse (1) Bumthang (2) S /Jongkhar (2)	Trongsa (1) Trashiyangtse (3) Bumthang (3) S /Jongkhar (1) Chhukha (3)	Buli (1) Dagapela (1) Pemagatshal (5) Gelephu (2) Bumthang (2) Trashigang (3) Samtse (1) Lhuntse (2) Trongsa (1) Wangdue (1) Dagana (1) Chhukha (1) Paro (1) Trashiyangtse (1)	Buli (1) Dagapela (1) Pemagatshal (5) Gelephu (2) Bumthang (2) Trashigang (3) Samtse (1) Lhuntse (2) Trongsa (1) Wangdue (1) Dagana (1) Chhukha (1) Paro (1) Trashiyangtse (1)

RBP, Thimphu N=358	RBP, Samdrup Jongkhar N=90	Taxi Drivers Thimphu N=118	Taxi Drivers Phuentsholing N=41	Truckers Thimphu N=36	Truckers Samdrup Jongkhar N=20
Name of District (Number)	*Name of District (Number)*	*Name of District (Number)*	*Name of District (Number)*	*Name of District (Number)*	*Name of District (Number)*
Thimphu (5) Paro (11) Haa (3) Punakha (7) Wangduephodrang (5) Trongsa (3) Bumthang (4) Lhuentse (7) Mongar (21) Trashiyangtse (6) Trashigang (14) S/jongkhar (31) Sarpang/Gelephu (126) Zhemgang (15) Tsirang (11) Dagana (5) Chhukha (68) Samtse (14) Pemagatshel (2)	Thimphu (37) Trongsa (1) Trashigang (3) S/jongkhar (1) Sarpang/Gelephu (17) Chhukha (30) Samtse (1)	Thimphu (3) Paro (10) Haa (2) Punakha (10) Wangdue (8) Trongsa (3) Bumthang (2) Lhuntse (2) Mongar (16) Trashiyangtse (1) Trashigang (24) Samdrup Jongkhar (2) Sarpang (4) Zhemgang (2) Tsirang (6) Dagana (3) Chukha (10) Samtse (8) Pemagatshel (2)	Thimphu (15) Paro (1) Punakha (3) Wangdue (3) Trongsa (1) Bumthang (3) Mongar (2) Trashiyangtse (3) Trashigang (3) Samdrup Jongkhar (1) Sarpang (1) Zhemgang (1) Chukha (3) Samtse (1)	Samtse (2) Wangduephodrang (5) Pemagatshel (5) Sarpang/gelephu (2) Lhuntse (2) Trashigang (10) Bumthang (2) Punakha (1) Dagana (1) Chhukha (2) Paro (1) Trashiyangtse (1) Zhemgang (1) Trongsa (1)	Samtse (5) Wangduephodrang (4) Pemagatshel (5) Lhuntse (3) Bumthang (1) Punakha (1) Dagana (1)

Annexe 2: Ethnic group of the respondents

Population Group, Area	Nagalop	Sharchop (Tshangla)	Kurtem	Bumthap	Lhotsampa	Khengpa	Tibetan
Drug Users, Thimphu, (N=115)	45.2 (34.8-56.1)	29.6 (20.7-40.3)	5.2 (1.7-15.2)	2.6 (0.8-8.4)	13.0 (6.5-24.6)	3.5 (1.3-8.8)	0.9 (0.1-7.2)
Bar girls, Thimphu, (N=77)	51.9 (33.6-69.8)	37.7 (21.0-57.9)	2.6 (0.6-10.4)	1.3 (0.1-11.0)	0	6.5 (2.4-16.6)	0
Bar girls, Phuentsholing, (N=25)	9.5 (2.0-34.7)	19.0 (6.7-43.3)	0	0	52.4 (27.0-76.6)	9.5 (2.0-34.7)	9.5 (1.9-36.7)
Non-Bhutanese Migrant workers, Thimphu, (N=413)	-	-	-	-	-	-	-
Non-Bhutanese Migrant workers, Mongar, (N=80)	-	-	-	-	-	-	-
RBA, Thimphu, (N=411)	24.3 (20.4-28.7)	39.9 (35.3-44.7)	10.0 (7.4-13.3)	5.1 (3.3-7.7)	4.1 (2.6-6.6)	4.1 (2.6-6.6)	0
RBP, Thimphu, (N=358)	16.2 (12.7-20.4)	46.1 (41.0-51.3)	11.5 (8.5-15.2)	5.9 (3.8-8.8)	2.0 (0.9-4.1)	18.4 (14.7-22.8)	0
RBP, Samdrup Jongkhar, (N=91)	18.7 (11.8-28.2)	52.7 (42.3-62.9)	13.2 (7.6-22.0)	1.1 (0.1-7.6)	0	14.3 (8.4-23.3)	0
Taxi Drivers, Thimphu, (N=195)	37.4 (29.7-45.9)	36.9 (29.2-45.4)	6.7 (4.1-10.6)	3.1 (1.1-8.7)	11.3 (7.8-16.0)	4.6 (2.3-9.2)	0
Taxi Drivers, Phuentsholing, (N=73)	43.8 (38.7-49.1)	31.5 (19.7-46.3)	8.2 (3.2-19.6)	4.1 (1.1-14.5)	11.0 (6.9-17.0)	1.4 (0.1-27.2)	0
Truckers, Thimphu, (N=98)	23.5 (17.1-31.4)	41.8 (31.7-52.7)	6.1 (2.9-12.5)	6.1 (3.3-11.2)	16.3 (10.3-24.9)	6.1 (1.8-18.6)	0
Truckers, Samdrup Jongkhar, (N=40)	10.0 (3.9-23.4)	75.0 (40.6-92.9)	2.5 (0.2-30.2)	7.5 (1.7-27.4)	2.5 (0.2-30.2)	2.5 (0.2-30.2)	0

Annexe 3: Knowledge on the modes of HIV transmission and confidential HIV testing

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion heard about HIV/AIDS	94.8 (85.0-98.3)	97.4 (79.0-99.7)	92.0 (70.1-98.3)	80.9 (76.8-84.4)	61.3 (50.0-71.5)	99.8 (98.3-100.0)
Proportion who thought that people can reduce the risk of HIV by using a condom correctly (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	95.4 (87.7-98.4)	85.3 (79.1-90.0)	78.3 (53.7-91.8)	95.8 (93.0-97.5)	85.7 (72.4-93.2)	97.8 (95.8-98.9)
No	1.8 (0.4-7.7)	8.0 (3.5-17.5)	4.3 (0.5-28.7)	1.5 (0.6-3.6)	6.1 (1.9-18.0)	1.5 (0.7-3.2)
Do not know	2.8 (0.9-8.1)	6.7 (2.7-15.7)	17.4 (5.2-44.6)	2.7 (1.4-5.1)	8.2 (3.0-20.4)	0.7 (0.2-2.3)
Proportion who thought that people can reduce the risk of HIV by avoiding anal sex (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	69.7 (61.9-76.5)	46.7 (26.8-67.7)	34.8 (17.1-58.0)	86.5 (82.4-89.8)	46.9 (33.1-61.3)	86.1 (82.4-89.1)
No	11.9 (61.9-76.5)	20.0 (10.1-35.7)	17.4 (7.0-37.1)	2.4 (1.2-4.7)	12.2 (5.4-25.3)	2.9 (1.7-5.1)
Do not know	18.3 (11.8-27.5)	33.3 (18.4-52.6)	47.8 (25.2-71.4)	11.1 (8.1-14.9)	40.8 (27.6-55.5)	11.0 (8.3-14.4)
Proportion who thought that people can reduce the risk of HIV by using a condom correctly every time they have anal sex (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	80.7 (73.6-86.3)	61.3 (43.0-77.0)	69.6 (44.6-86.6)	96.1 (93.4-97.7)	57.1 (42.6-70.6)	85.4 (81.6-88.5)
No	7.3 (3.7-14.1)	13.3 (8.2-20.9)	0	0.9 (0.3-2.8)	4.1 (1.0-15.6)	2.2 (1.1-4.2)

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
Do not know	11.9 (7.2-19.1)	25.3 (11.3-47.4)	30.4 (13.4-55.4)	3.0 (1.6-5.5)	38.8 (25.9-53.5)	12.4 (9.6-16.0)
Proportion who thought that a pregnant woman infected with HIV can transmit the virus to her unborn child (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	89.9 (79.0-95.5)	94.7 (83.4-98.4)	87.0 (66.3-95.8)	85.0 (80.8-88.5)	89.8 (77.1-95.8)	98.3 (96.5-99.2)
No	4.6 (1.8-11.2)	2.7 (0.5-12.4)	4.3 (0.5-30.9)	7.5 (5.1-10.9)	2.0 (0.3-14.0)	0.5 (96.5-99.2)
Do not know	5.5 (2.3-12.8)	2.7 (0.3-19.1)	8.7 (2.2-28.7)	7.5 (5.1-10.9)	8.2 (3.0-20.4)	1.2 (0.5-2.9)
Proportion who thought that a pregnant woman infected with HIV can transmit the virus to her newborn child through breastfeeding (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	69.7 (55.7-80.9)	77.3 (60.7-88.3)	87.0 (66.3-95.8)	82.9 (78.5-86.6)	63.3 (48.5-75.9)	95.1 (92.5-96.8)
No	20.2 (10.2-35.9)	10.7 (5.0-21.3)	8.7 (1.9-32.2)	9.3 (6.6-12.9)	26.5 (15.8-41.1)	1.5 (0.7-3.2)
Do not know	10.1 (5.8-17.1)	12.0 (3.8-32.2)	4.3 (0.6-26.6)	7.8 (5.3-11.2)	10.2 (4.2-22.9)	3.4 (2.0-5.7)
Proportion who thought that a person can get HIV from mosquito bites (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	29.4 (19.4-41.8)	53.3 (40.7-65.5)	34.8 (15.4-60.9)	72.2 (67.1-76.7)	51.0 (36.8-65.1)	39.5 (34.9-44.3)
No	57.8 (46.0-68.8)	36.0 (26.1-47.3)	47.8 (22.7-74.1)	21.3 (17.2-26.0)	34.7 (22.4-49.4)	51.7 (46.8-56.5)
Do not know	12.8 (8.6-18.8)	10.7 (4.8-22.0)	17.4 (3.2-57.2)	6.6 (4.4-9.8)	14.3 (6.8-27.6)	8.8 (6.4-11.9)

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion who thought that a person can get HIV by sharing a meal with someone who is infected (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	11.9 (5.4-24.5)	21.3 (12.4-34.3)	30.4 (14.1-53.8)	41.3 (36.1-46.7)	34.7 (22.4-49.4)	12.7 (9.8-16.3)
No	77.1 (61.3-87.7)	72.0 (55.8-84.0)	65.2 (37.0-85.7)	51.5 (46.1-56.8)	51.0 (36.8-65.1)	77.8 (73.5-81.6)
Do not know	11.0 (5.7-20.2)	6.7 (2.7-15.7)	4.3 (0.6-26.6)	7.2 (4.9-10.5)	14.3 (6.8-27.6)	9.5 (7.0-12.8)
Proportion who thought that a person can get HIV by taking injections with a needle that has already been used by someone else (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	95.4 (89.0-98.2)	90.7 (77.7-96.4)	95.7 (73.4-99.4)	92.8 (89.5-95.1)	77.6 (63.3-87.4)	99.8 (98.3-100.0)
No	2.8 (0.8-8.7)	6.7 (2.7-15.4)	0	2.7 (1.4-5.1)	8.2 (3.0-20.4)	0
Do not know	1.8 (0.4-7.9)	2.7 (0.7-9.9)	4.3 (0.6-26.6)	4.5 (2.7-7.3)	14.3 (6.8-27.6)	0.2 (0.0-1.7)
Proportion who thought that people can reduce their risk of HIV by avoiding sex with multiple partners (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	92.7 (84.9-96.6)	86.7 (72.6-94.1)	78.3 (53.7-91.8)	91.3 (87.8-93.9)	81.6 (67.7-90.4)	97.8 (95.8-98.9)
No	3.7 (1.1-11.3)	9.3 (4.9-16.9)	8.7 (1.9-32.2)	1.8 (0.8-4.0)	6.1 (1.9-18.0)	1.0 (0.4-2.6)
Do not know	3.7 (1.1-11.3)	4.0 (0.9-16.0)	13.0 (3.0-42.5)	6.9 (4.6-10.2)	12.2 (5.4-25.3)	1.2 (0.5-2.9)
Proportion who thought that one can tell by looking at						

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
someone whether they are infected with HIV (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	11.9 (6.6-20.6)	5.3 (1.6-15.9)	0	4.2 (2.5-7.0)	2.0 (0.3-14.0)	2.0 (1.0-3.9)
No	75.2 (66.8-82.1)	92.0 (82.0-96.7)	100.0	92.8 (89.5-95.1)	98.0 (86.0-99.7)	97.8 (95.8-98.9)
Do not know	12.8 (7.7-20.6)	2.7 (0.7-9.9)	0	3.0 (1.6-5.5)	0	0.2 (0.0-1.7)
Proportion who thought that a healthy looking person can have HIV (Denominator is who had heard about HIV/AIDS)	N=109	N=75	N=23	N=334	N=49	N=410
Yes	56.9 (43.9-69.0)	60.0 (43.0-74.9)	69.6 (46.2-85.9)	23.1 (18.8-27.9)	44.9 (31.3-59.4)	52.7 (47.8-57.5)
No	30.3 (19.5-43.7)	30.7 (19.4-44.9)	21.7 (9.0-43.8)	70.1 (64.9-74.8)	42.9 (29.4-57.4)	41.5 (36.8-46.3)
Do not know	12.8 (7.5-21.0)	9.3 (3.8-21.4)	8.7 (2.2-28.7)	6.9 (4.6-10.2)	12.2 (5.4-25.3)	5.9 (3.9-8.6)
Comprehensive knowledge on HIV/AIDS‡	32.2 (19.9-47.6)	14.3 (9.0-21.9)	32.0 (12.5-60.8)	4.6 (2.9-7.1)	5.0 (1.8-12.8)	33.6 (29.2-38.3)
Confidential HIV testing						
Proportion knew where HIV can be tested confidentially	61.7 (49.8-72.4)	49.4 (28.3-70.6)	4.0 (0.4-28.6)	27.4 (23.3-31.9)	38.8 (28.5-50.0)	78.1 (73.8-81.9)
Proportion ever tested for HIV (Denominator is who knew where to test for HIV)	N=71 28.2 (18.8-39.9)	N=38 42.1 (34.4-50.2)	N=1 0	N=113 12.4 (7.4-20.0)	N=31 3.2 (0.4-21.6)	N=321 57.0 (51.5-62.3)
Motivation for HIV testing (Denominator is who ever tested for HIV)	N=20	N=16	N=0	N=14	N=1	N=183
Voluntary	80.0 (61.9-90.8)	56.3 (37.5-73.4)	-	71.4 (39.9-90.4)	100.0	43.2 (36.1-50.5)
Somebody asked	20.0 (9.2-38.1)	43.8 (26.6-62.5)	-	28.6 (9.6-60.1)	0	56.8 (49.5-63.9)

Indicators	Drug users Thimphu (N= 115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion had the result of HIV test (Denominator is who ever tested for HIV)	N=20 95.0 (63.5-99.5)	N=16 93.8 (60.8-99.3)	N=0 -	N=14 92.9 (55.9-99.3)	N=1 100.0	N=183 78.1 (71.5-83.6)
Proportion had the result of HIV test	16.5 (8.9-28.5)	19.5 (11.6-30.8)	0	3.1 (1.8-5.4)	1.3 (0.2-8.7)	34.8 (30.3-39.5)
Time when last HIV test was done (Denominator is who ever tested for HIV)	N=20	N=16	N=0	N=14	N=1	N=183
Within one year	65.0 (35.5-86.2)	62.5 (34.9-83.8)	-	57.1 (28.4-81.7)	0	44.8 (37.7-52.1)
More than one year ago	35.0 (13.8-64.5)	31.3 (14.0-55.9)	-	42.9 (18.3-71.6)	100.0	55.2 (47.9-62.3)
Cannot remember	0	6.3 (0.7-39.2)	-	0	0	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

‡ Comprehensive knowledge of HIV was computed among the respondents who gave correct answers to five questions regarding route of transmission of HIV, i.e., people can reduce the risk of HIV by using condoms, a person cannot get HIV from mosquito bites, a person cannot get HIV by sharing a meal with someone who is HIV infected, risk of HIV can be reduced by avoiding multiple sex partners and a healthy looking person can have HIV.

Annexe 3: Knowledge on the modes of HIV transmission and confidential HIV testing (Continued)

Indicators	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion heard about HIV/AIDS	100.0	98.9 (92.4-99.9)	97.9 (95.2-99.1)	100.0	95.9 (90.0-98.4)	72.5 (29.8-94.2)
Proportion who thought that people can reduce the risk of HIV by using a condom correctly (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	98.9 (97.0-99.6)	95.6 (88.6-98.4)	99.0 (91.0-99.9)	100.0	95.7 (90.8-98.1)	96.6 (56.3-99.8)
No	0.3 (0.0-2.0)	4.4 (1.6-11.4)	1.0 (0.1-9.0)	0	1.1 (0.2-5.3)	3.4 (0.2-43.7)
Do not know	0.8 (0.3-2.6)	0	0	0	3.2 (1.4-7.3)	0
Proportion who thought that people can reduce the risk of HIV by avoiding anal sex (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	88.8 (85.1-91.7)	80.0 (70.3-87.1)	89.0 (79.6-94.4)	97.3 (92.3-99.1)	89.4 (80.7-94.4)	86.2 (70.6-94.2)
No	2.0 (0.9-4.1)	6.7 (3.0-14.2)	1.0 (0.1-9.0)	1.4 (0.1-22.4)	0	6.9 (3.0-15.2)
Do not know	9.2 (6.6-12.7)	13.3 (7.6-22.2)	9.9 (4.7-20.0)	1.4 (0.2-7.2)	10.6 (5.6-19.3)	6.9 (3.0-15.2
Proportion who thought that people can reduce the risk of HIV by using a condom correctly every time they have anal sex (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	89.9 (86.4-92.7)	85.6 (76.5-91.5)	92.7 (87.4-95.9)	98.6 (77.6-99.9)	90.4 (83.5-94.6)	89.7 (65.1-97.6)

Indicators	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
No	2.2 (1.1-4.4)	2.2 (0.5-8.7)	1.0 (0.1-9.0)	1.4 (0.1-22.4)	2.1 (0.7-6.7)	3.4 (0.2-43.7)
Do not know	7.8 (5.4-11.1)	12.2 (6.8-20.9)	6.3 (3.3-11.7)	0	7.4 (4.2-12.9)	6.9 (3.0-15.2)
Proportion who thought that a pregnant woman infected with HIV can transmit the virus to her unborn child (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	97.5 (95.2-98.7)	97.8 (91.3-99.5)	98.4 (93.2-99.7)	98.6 (92.8-99.8)	100.0	96.6 (56.3-99.8)
No	0	0	0.5 (0.1-4.4)	0	0	0
Do not know	2.5 (1.3-4.8)	2.2 (0.5-8.7)	1.0 (0.3-4.1)	1.4 (0.2-7.2)	0	3.4 (0.2-43.7)
Proportion who thought that a pregnant woman infected with HIV can transmit the virus to her newborn child through breastfeeding (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	97.5 (95.2-98.7)	93.3 (85.8-97.0)	83.8 (71.2-91.5)	94.5 (87.1-97.8)	93.6 (86.5-97.1)	93.1 (55.8-99.3)
No	0	3.3 (1.1-10.0)	15.2 (7.9-27.1)	1.4 (0.2-7.2)	4.3 (1.4-12.3)	3.4 (0.1-64.6)
Do not know	2.5 (1.3-4.8)	3.3 (1.1-10.0)	1.0 (0.2-4.6)	4.1 (1.8-8.9)	2.1 (0.5-8.8)	3.4 (0.2-43.7)
Proportion who thought that a person can get HIV from mosquito bites (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	33.8 (29.1-38.9)	44.4 (34.4-55.0)	37.7 (29.5-46.7)	79.5 (60.4-90.7)	58.5 (42.2-73.1)	48.3 (29.9-67.2)
No	60.9 (55.7-65.8)	54.4 (43.9-64.6)	56.5 (45.7-66.8)	19.2 (8.2-38.6)	39.4 (23.9-57.3)	31.0 (13.7-56.1)

Indicators	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
	5.3 (3.4-8.2)	1.1 (0.2-7.7)	5.8 (3.0-10.7)	1.4 (0.0-31.3)	2.1 (0.4-10.3)	20.7 (5.6-53.4)
Proportion who thought that a person can get HIV by sharing a meal with someone who is infected (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	11.2 (8.3-14.9)	11.1 (6.0-19.6)	8.9 (5.2-14.8)	1.4 (0.2-7.2)	21.3 (13.7-31.4)	13.8 (5.8-29.4)
No	83.8 (79.6-87.3)	86.7 (77.8-92.4)	89.5 (82.8-93.8)	98.6 (92.8-99.8)	77.7 (67.6-85.3)	65.5 (44.8-81.6)
Do not know	5.0 (3.2-7.9)	2.2 (0.5-8.7)	1.6 (0.6-4.2)	0	1.1 (0.1-7.2)	20.7 (5.1-55.8)
Proportion who thought that a person can get HIV by taking injections with a needle that has already been used by someone else (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	99.2 (97.4-99.7)	97.8 (91.3-99.5)	98.4 (89.0-99.8)	100.0	100.0	96.6 (56.3-99.8)
No	0.6 (0.1-2.2)	2.2 (0.5-8.7)	1.0 (0.1-7.5)	0	0	0
Do not know	0.3 (0.0-2.0)	0	0.5 (0.1-3.8)	0	0	3.4 (0.2-43.7)
Proportion who thought that people can reduce their risk of HIV by avoiding sex with multiple partners (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	99.4 (97.8-99.9)	98.9 (92.3-99.8)	96.3 (90.3-98.7)	98.6 (92.8-99.8)	100.0	100.0
No	0.6 (0.1-2.2)	1.1 (0.2-7.7)	2.1 (0.6-6.6)	1.4 (0.2-7.2)	0	0

Indicators	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Do not know	0	0	1.6 (0.3-7.9)	0	0	0
Proportion who thought that one can tell by looking at someone whether they are infected with HIV (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	0.8 (0.3-2.6)	3.3 (1.1-10.0)	5.2 (2.4-11.1)	0	1.1 (0.1-8.9)	0
No	98.0 (95.9-99.1)	96.7 (90.0-98.9)	89.0 (76.7-95.2)	100.0	98.9 (91.1-99.9)	100.0
Do not know	1.1 (0.4-3.0)	0	5.8 (2.0-15.5)	0	0	0
Proportion who thought that a healthy looking person can have HIV (Denominator is who had heard about HIV/AIDS)	N=358	N=90	N=191	N=73	N=94	N=29
Yes	29.9 (25.4-34.9)	71.1 (60.7-79.7)	66.5 (50.8-79.2)	13.7 (0.8-75.8)	51.1 (28.3-73.4)	62.1 (36.1-82.6)
No	68.7 (63.7-73.3)	21.1 (13.8-31.0)	25.1 (12.9-43.2)	86.3 (24.2-99.2)	40.4 (22.5-61.4)	37.9 (17.4-63.9)
Do not know	1.4 (0.6-3.3)	7.8 (3.7-15.6)	8.4 (4.3-15.7)	0	8.5 (2.7-23.7)	0
Comprehensive knowledge on HIV/AIDS‡	17.0 (13.5-21.3)	38.5 (28.9-49.0)	37.9 (24.7-53.3)	8.2 (0.7-52.2)	31.6 (16.3-52.5)	15.0 (8.2-25.9)
Confidential HIV testing						
Proportion knew where HIV can be tested confidentially (Denominator is who had heard about HIV/AIDS)	83.8 (79.6-87.3)	79.1 (69.4-86.4)	81.0 (71.8-87.7)	53.4 (38.3-67.9)	42.9 (31.2-55.3)	67.5 (35.2-88.8)
Proportion ever tested for HIV (Denominator is who knew	N=300 25.3 (20.7-30.6)	N=72 75.0 (63.5-83.8)	N=158 38.6 (28.8-49.4)	N=39 30.8 (12.0-59.2)	N=42 26.2 (14.4-42.9)	N=27 29.6 (12.2-56.0)

Indicators	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
where to test for HIV)						
Motivation for HIV testing (Denominator is who ever tested for HIV)	N=76	N=54	N=61	N=12	N=11	N=8
Voluntary	76.3 (65.2-84.7)	63.0 (49.0-75.0)	85.2 (68.4-93.9)	83.3 (12.4-99.4)	90.9 (29.0-99.6)	100.0
Somebody asked	23.7 (15.3-34.8)	37.0 (25.0-51.0)	14.8 (6.1-31.6)	16.7 (0.6-87.6)	9.1 (0.4-71.0)	0
Proportion had the result of HIV test (Denominator is who ever tested for HIV)	N=76 98.7 (90.9-99.8)	N=54 92.6 (81.4-97.3)	N=61 86.9 (71.1-94.7)	N=12 83.3 (18.8-99.1)	N=11 100.0	N=8 100.0
Proportion had the result of HIV test	20.9 (17.0-25.5)	54.9 (44.5-65.0)	27.2 (19.0-37.3)	13.7 (6.2-27.7)	11.2 (6.1-19.9)	20.0 (7.0-45.2)
Time when last HIV test was done (Denominator is who ever tested for HIV)	N=76	N=54	N=61	N=12	N=11	N=8
Within one year	39.5 (28.9-51.1)	63.0 (49.0-75.0)	62.3 (52.0-71.6)	25.0 (3.4-75.7)	18.2 (1.4-77.1)	0
More than one year ago	60.5 (48.9-71.1)	37.0 (25.0-51.0)	37.7 (28.4-48.0)	75.0 (24.3-96.6)	81.8 (22.9-98.6)	100.0
Cannot remember	0	0	0	0	0	0

Note: Where responses from the total number of respondents were not available, the 'N' is provided in the particular cell

‡ Comprehensive knowledge of HIV was computed among the respondents who gave correct answers to five questions regarding route of transmission of HIV, i.e., people can reduce the risk of HIV by using condoms, a person cannot get HIV from mosquito bites, a person cannot get HIV by sharing a meal with someone who is HIV infected, risk of HIV can be reduced by avoiding multiple sex partners and a healthy looking person can have HIV.

Annexe 4: Mobility related risk behaviours

Indicators	Drug users Thimphu (N=115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
Proportion reported travelling to another country in the last year	39.1 (31.2-47.7)	15.6 (8.7-26.3)	40.0 (20.0-64.0)	46.7 (41.9-51.6)‡	58.8 (47.5-69.2)‡	21.7 (17.9-25.9)
Name of the places visited (Denominator is who had visited another country in the last year)	N=45 *Country (Number):* India (35) China (1) Nepal (6) Thailand (3) *Town (Number):* Jaigaon (13) Siliguri (5) Phari (1) Kolkata (3) Kathmandu (6) Kalingpong (3) Chandigarh (1) Delhi (1) Darjeeling (2) Bangkok (3) Sikkim (1) Karnataka (1) Falakata (2)	N=12 *Country (Number):* India (9) Nepal (2) Bangladesh (1)	N=10 *Country (Number):* India (10)	N=193 *Country (Number):* India (193)	N=47 *Country (Number):* India (147)	N=89 *Country (Number):* India (84) Sri Lanka (2) Philippines (3)

Indicators	Drug users Thimphu (N=115 unless otherwise stated)	Bar girls Thimphu (N=77 unless otherwise stated)	Bar girls Phuentsholing (N=25 unless otherwise stated)	Non-Bhutanese migrant workers Thimphu (N=413 unless otherwise stated)	Non-Bhutanese migrant workers Mongar (N=80 unless otherwise stated)	RBA, Thimphu (N=411 unless otherwise stated)
	Chennai (1) Bangalore (1) Hasimara (1)					
Proportion who had commercial sex[†] while abroad in the last year (Denominator is who visited another country in the last year)	N=45 39.0 (22.1-51.7)	N=12 8.3 (0.6-58.4)	N=10 0	N=193 8.3 (5.1-13.2)	N=47 29.8 (18.1-44.8)	N=89 15.7 (9.4-25.0)
Proportion who used condom in the last commercial sex while abroad in the last year (Denominator is who had commercial sex while visiting another country in the last year)	N=16 93.8 (58.1-99.4)	N=1 100.0	N=0 -	N=16 43.8 (20.4-70.2)	N=14 78.6 (46.0-94.0)	N=14 100.0

[‡]For non-Bhutanese migrant workers, this refers to travelling to their home country

[†]Commercial sex for males refers to giving money/gifts in exchange for sex and for females it refers to receiving money/gifts in exchange for sex

Annexe 4: Mobility related risk behaviour (Continued)

Indicators	RBP, Thimphu (N=358 unless otherwise stated)	RBP, Samdrup Jongkhar (N=91 unless otherwise stated)	Taxi Drivers Thimphu (N=195 unless otherwise stated)	Taxi Drivers Phuentsholing (N=73 unless otherwise stated)	Truckers Thimphu (N=98 unless otherwise stated)	Truckers Samdrup Jongkhar (N=40 unless otherwise stated)
Proportion reported travelling to another country in the last year	15.9 (12.5-20.1)	53.8 (43.4-64.0)	47.7 (35.9-59.7)	90.4 (78.1-96.1)	62.2 (50.5-72.7)	42.5 (26.4-60.4)
Name of places visited (Denominator is who had visited another country in the last year)	N=57 *Name of country* (Number): India (57)	N=49 *Name of country* (Number): India (49)	N=93 *Name of country* (Number): India (87) Thailand (2) Bangladesh (1) Tibet/China (3)	N=66 *Name of country* (Number): India (65) Thailand (1)	N=61 *Name of country* (Number): India (61)	N=17 *Name of country* (Number): India (17)
Proportion who had commercial sex† while abroad in the last year (Denominator is who visited another country in the last year)	N=57 7.0 (2.6-17.7)	N=49 18.4 (9.6-32.3)	N=93 18.3 (8.4-35.2)	N=66 24.2 (1.0-48.0)	N=61 23.0 (12.0-39.4)	N=17 41.2 (4.5-91.2)
Proportion who used condom in the last commercial sex while abroad in the last year (Denominator is who had commercial sex while visiting another country in the last year)	N=4 75.0 (4.1-99.5)	N=9 77.8 (33.0-96.1)	N=17 100.0	N=16 100.0	N=14 100.0	N=7 85.7 (0.6-100.0)

†Commercial sex for males refers to giving money/gifts in exchange for sex and for females it refers to receiving money/gifts in exchange for sex